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ABSTRACT

In this study of the physical facilities of the nation's health professions schools, all schools of dentistry, medicine, optometry, osteopathy, pharmacy, podiatry, public health, and veterinary medicine, and all parent institutions of the schools, were surveyed in May of 1973. The major goals of this pioneering survey were to assess the nature and use of existing, under construction, and planned facilities, and to forecast the anticipated replacement or expansion of facilities in the following decade. At the time of this writing, three years after the first survey, very few of the data are obsolete. Information on nonclinical instruction facilities has to do with amount, condition, and perceived needs for room types: classrooms, class laboratories, research and research training space, library space, auditoria, faculty offices, administrative areas, animal facilities, and other kinds of space. Clinical teaching facilities available to the schools are also inventoried in square footage and in terms of beds, examination rooms, and ambulatory patient stations. Analyses are made of resource utilization. Census data are projected to determine use of facilities and output of health professionals in future years. (Author/MSE)

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HEALTH PROFESSIONS EDUCATION FACILITIES IN THE NON-PROFIT SECTOR

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE • Public Health Service • Health Resources Administration

HE

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HEALTH PROFESSIONS
EDUCATION FACILITIES
IN THE NON-PROFIT SECTOR
1973

Report of a survey conducted for
the Bureau of Health Manpower
by RRC INTERNATIONAL, INC.
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EXECUTIVE ABSTRACT

In September of 1971, the Bureau of Health Manpower contracted with RRC International, Inc. to conduct a study of the physical facilities of the nation's health professions schools. In very broad terms, the major goals of this pioneering survey were to assess the nature and use of existing, in-process (under construction), and planned facilities at the subject institutions, and, for Federal planning purposes, to forecast the anticipated requirements for replacement or expansion of facilities over the ensuing decade. In addition, the data obtained could be used to assist the individual institutions in comparing and contrasting their operations with schools of similar characteristics.

All 308 schools of Dentistry, Medicine, Optometry, Osteopathy, Pharmacy, Podiatry, Public Health, and Veterinary Medicine were mailed an extensive survey questionnaire in May of 1973. In addition, data were also solicited from the 154 "parent" institutions of the schools surveyed. Satisfactorily completed forms were entered into a computer for access by a team of data analysts. The report which follows is a summarization of their findings.

While the bulk of the data collected pertains to the schools' status as of the fall of 1973, very few, if any, of the survey's findings have been rendered obsolete as of this writing. With regard to the physical facilities inventory itself, sufficient data on new construction (and its impact) were obtained to develop projections of "today's" inventory. In addition, many of the displayed measures of status and usage change very slowly with time--and the patterns in these measures, e.g., the contrasts between publicly controlled and privately controlled schools--remain valid.

The report presents the analyses' results in three sections, each corresponding to a different level of institutional "aggregation":

1. all eight professions combined;

2. each profession independently; and

3. each individual institution.

Two broad classifications of space are dealt with by the report, the first and most detailed treatment being accorded the nonclinical instruction facilities used by the schools. The report displays data concerning amount, condition, and perceived needs for a variety of "room-types" including classroom-type instructional space; class laboratories; research and research training space; library space; auditoria; faculty offices; administrative offices and areas; animal facilities; and other kinds of space in aggregate.

These room-types are also analyzed within the context of their locational "setting" (e.g., classroom building versus hospital or clinic), an identification considered important by virtue of the assumed importance, to a teaching hospital, of having some degree of on-site availability of such room-types.

Inventoried in a less detailed but still substantial way (as a function of data availability) are the clinical teaching facilities available to the schools, both in square footage terms and in terms of beds, exam rooms, and ambulatory patient "stations".

Resource utilization is assessed in a variety of ways, some relatively simplistic (e.g., space and student stations per student), and some highly complex (e.g., percent student station occupancy over time). The latter measure is obtained in a manner which to the researchers' knowledge, represents the first successful attempt to obtain theoretically robust occupancy measures without an on-site audit--and with little chance of bias.

Within the analysis of each profession, the inventory and utilization data are searched for patterns relating to enrollment, ownership, census region, and locale of school (e.g., innercity versus suburban). In addition, cases of "joint-use" (i.e., sharing) of facilities are identified to insure against multiple counting and to enable analysis of joint-usage as a potential means of improving space utilization.

Current and projected student, faculty, and staff population figures were collected to provide census data for use in developing size categories for institutions, and to provide an indication of the projected "output" of health professionals in the future. Respondents were also requested to subjectively estimate student enrollment expansion potential given existing facilities and financial resources and various levels of increased resources.

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A.1 Comparison of 265 Respondents With Thirty (of Forty-Three) Non-Respondents A-26

PART I: SURVEY OVERVIEW AND METHODOLOGY

I. SUMMARY OF SURVEY GOALS AND METHODOLOGY

A. SURVEY GOALS

One of the primary missions of the Bureau of Health Manpower (BHM) is to stimulate the production of health manpower and thereby assist in improving the Nation's health care delivery system. Beginning with the passage of the Health Professions Educational Assistance Act of 1963 (PL88-129) as amended, this agency has, through such vehicles as matching construction grants, loan guarantees and loan interest subsidies, added to and improved the resources available for the education of health professions students.

The lack of a properly oriented data base reflecting the effects of the continuous Federal investment in educational facilities made it difficult to assess the impact of these facilities upon the status of the health professions schools. In September of 1971, the then-Division of Physician and Health Professions Education contracted with RRC International, Inc. to perform an in-depth survey whose purposes were to identify and verify any health professions education (HPE) facility inadequacies or utilization imbalances; to assess schools' capacities to accommodate, and perhaps expand current enrollment within the existing complement of facilities resources; and to obtain information regarding the Federal impact, both present and potential, on HPE facilities construction. In conjunction with other information, it was anticipated that the survey results would be used to (1) assist the Executive Branch of the Government and Congress to define more accurately their priorities and goals in the health area; and (2) to aid in the formation, as necessary, of alternative strategies for approaching the educational facilities-related aspects of the health care delivery system.

The specific conceptual goals of the large scale undertaking described herein included the following:

(a) to identify, in the form of an inventory, the current status of HPE facilities - both existing and under construction;

(b) to establish a data base which would aid in assessing the congruency between existing HPE facilities and the Nation's health care delivery needs;

(c) to obtain information of use in determining magnitude, direction, and rationale of future HPE facilities construction;

(d) to begin to identify the fundamental relationships between health manpower output and the instructional facilities required for its production at a given level;

(e) to help assess the impact of the H.P.E.A. Act of 1963, and subsequent legislation, upon schools' progress in accommodating an increasing health professions enrollment; and

(f) to identify facilities needs in light of existing and projected levels of health manpower production.

The informational goals of the survey were manifold. Of primary import was the concept of profession-by-profession and school-by-school comparative analysis of the reported space, its utilization, and its condition. Through such analysis, the Bureau would be better able to assess those schools and/or professions which exhibited discrepancies between the availability of, and need for, health education resources. Central to this concept of comparative analysis was the survey's inclusion of all eight health professions (Dentistry, Medicine, Optometry, Osteopathy, Pharmacy, Podiatry, Public Health, and Veterinary Medicine).

In addition, through detailed delineation of the composition of the facilities inventory of each profession the survey would provide information which could aid the facilities planning of new or developing schools, and lend credence to the renovation, replacement, or expansion plans of existing schools. It was further hoped that the survey data would reveal whether or not particular problems were common to schools as a function of size, profession, geographic location/locale, ownership, or curriculum "architecture" (e.g., length of program); while simultaneously yielding information valuable in the formulation of proposals that might (1) help stabilize the operations of "weak schools", (2) provide the appropriate impetus for acceleration of the start of new schools; and (3) encourage retention of schools in urban areas.

B. SUMMARY OF SURVEY METHODOLOGY

In view of the wide reaching goals of the survey, it was recognized that the data gathering instrument would be complex. This complexity, in conjunction with the disparity among the eight professions and hundreds of schools surveyed, was accentuated by the absence of a standard facilities terminology among the health professions. Other problems to be overcome by the design of the instrument were those of potential double-counting of facilities because of the increasing tendency of schools of varying professions to share facilities; the state of flux in the configuration of available facilities caused by ongoing construction and remodeling efforts; and the possibility of bias in view of the subjectivity of the schools' perceptions of their needs.

A panel of 13 top level professionals in the health education field were engaged to help solve these difficult and complex issues. As may be seen in the listing of Appendix B, there was ample representation of expertise not only in physical facilities, but in library science, audio-visual aids, and school administration as well.

With the support of the consultants' panel, the format and context of the instrument began to take shape. For example, it was ultimately determined that two data collection instruments would be required to avoid the problem of double counting: one for data regarding space "allocated to" (controlled by) health professions schools; and one for data concerning those facilities not "allocated" to health professions schools but made available to them by central agencies. In addition, survey terminology was standardized through the development of an extensive set of room-type definitions and terms based on the Higher Education General Information Survey (HEGIS) system developed by the Office of Education. The problem of the shifting facilities configurations available for use by health professions schools was solved by requesting respondents to report three fundamental pieces of information:

(1) the form and composition of the fall, 1973 inventory;
(2) a description of the amount and effect of ongoing and fully authorized construction and remodeling programs; and
(3) an estimate of additional construction and remodeling to be completed by 1983.

To prevent survey bias and to allow an objective assessment of the respondents' facilities utilization figures, the instrument was organized in a way that required the research team to draw data from four pages of the Health Professions School Questionnaire to compute the utilization percentages.

The two survey instruments were pretested in the summer of 1972 with the cooperation of nine health professions schools and three parent institutions covering five health professions. The responses were favorable, indicating fewer problems than had been anticipated; with the most serious potential problem being that high level administrators were required to complete the form. Other problems that arose were the difficulty of fitting certain facility configurations into the mold implied by the instrument, and the excess of detail required for the ten year look-ahead.

The instruments, redesigned to solve these problems, were sent to 462 health professions schools and associated parent institutions (in early 1973) as follows:

Dentistry	59
Medicine	114
Optometry	12
Osteopathy	8
Pharmacy	72
Podiatry	5
Public Health	18
Veterinary Medicine	20
Parent Institution	154
TOTAL	462

An intensive follow-up campaign of postcards and telephone calls was carried out in mid-October 1973. By December, approximately 85% of the schools had responded. All of the non-respondents were contacted by telephone for an unstructured, informal interview, during which some comparative data were obtained from 31 schools. The forms were then edited, both manually and by computer, to assess the validity of the responses by checks for internal consistency and "reasonableness" in light of other responses. Many hundreds of telephone calls were made, and letters sent, in an effort to obtain as complete and valid a data base as possible without on-site auditing. The machine edit, in addition to making internal consistency checks, also built the computer readable files used for generation of the analytical reports used as the basis of discussion in subsequent parts of this report.

The survey instruments were designed to develop data which would answer the following questions.

(1) Approximately how much instructional space is available for health professions students (both clinical and nonclinical space)? How do these figures vary (on a per student basis) from school to school? Are there similarities and significant differences (among professions) in the composition of the existing facilities?

(2) How well utilized are respondents' classrooms and class laboratories?

(3) What impact has the HPEA Act and subsequent legislation had on the available nonclinical and clinical facilities as they exist today? As they will exist when present construction programs are complete?

(4) Approximately how much construction and remodeling would be required to transform existing facilities such that they are all considered satisfactory for program purposes?

(5) For which kinds of schools are clinical facilities limiting factors on trained manpower outputs?

(6) What is the loading on each Respondent's space by other than health professions students.

(7) What are the configurations of, funding sources for, and purposes of ongoing construction? How will this construction affect space utilization, manpower production, the overall inventory of space available for health professions educational use, and the composition of the facilities inventory?

(8) What square footage needs will current construction not fulfill?

(9) What appear to be the major functional relationships between number of students accommodated and amount of clinical material available for utilization in the educational program?

(10) What potential do non-major affiliated hospitals have as future major affiliates?

(11) What relative commitment to audiovisual aids have schools of the different professions exhibited?

(12) Are changing teaching methods contributing to a mismatch between room size availabilities and needs?

(13) What are respondents' perceived needs for supportive resources under varying conditions of growth in the student population?

(14) What construction programs are planned for the next 10 year period? What are their purposes?

The relationship of the above questions to the survey's goals should be obvious. What may not be immediately obvious is that the answers to such questions are not easily obtainable through the medium of a mail survey. It is hoped that knowledgeable researchers in a variety of educational administrative functions will find that the data herein are valuable for their purposes. However, new data--particularly that arising from a mail survey--should be approached with caution. It is one primary intent of this report to lend credence to the survey's findings by describing in some detail the manner in which the survey was performed, its design considerations, and the technical and philosophical approach inherent in the survey instrument. Moreover, some significant discussion will be provided regarding the editing and error correction procedures utilized. Only in this way can both the value--and the shortcomings--of the reported figures be assessed; and it is only by setting forth such background that we can maximize the utility of the survey to its sponsors, and to those schools whose participation has proved a time-consuming, difficult, and costly investment.

For a full description of the methods employed in carrying out this survey, the reader is referred to Appendix A, "Detailed Description of Survey Methodology". Appendix C contains the instruments themselves, as well as their associated instructions and definitions.

II. PRELUDE TO THE ANALYSIS OF SURVEY RESULTS

Before starting the discussion of the survey's findings, a number of topics are covered which will assist in the understanding and interpretation of the analysis. Key among these topics is the definition of a number of concepts and categorizations which are used repeatedly in the discussion and which, though familiar-sounding, have been given specialized meanings in the context of the survey.

A. TECHNICAL DEFINITIONS

The term "nonclinical facilities" represents the following facility types:

(1) classroom-type (including seminar rooms)
(2) class laboratory
(3) research and research training space
(4) library
(5) auditorium
(6) faculty office
(7) administrative area
(8) animal facilities

It should be noted that data on the above facility types were gathered not only from the schools, but from their owned and major affiliated hospitals and clinics as well. When discussing this latter data, we shall refer to "nonclinical instruction facilities in clinical areas", recognizing that while we are not dealing with clinical instruction *per se*, the content of said instruction may relate to clinical topics even though patient contact does not occur.

A second key word which permeates the survey instrument, and thus its analysis, is the word "allocated". Allocated facilities are those *nonclinical instruction facilities* whose use is *controlled by the respondent* on a day-to-day basis. As used herein, "allocated" facilities exclude "nonclinical instruction facilities in clinical areas" even if such areas are controlled by the respondent.

In addition to "allocated" facilities and "nonclinical instruction facilities in clinical areas", a school often has access to the nonclinical instruction facilities controlled by a parent institution or its health sciences center. Typical examples of such facilities are libraries, central classroom facilities, and auditoria. The agency, in either case, is denoted as the "parent institution" and the facilities in question are referred to as "joint-use facilities". In its broadest definition, joint-use facilities are those nonclinical instruction facilities used by at least one health profession school, but controlled by an agency other than that health profession school.

Part of the data exposition relates to the "condition" of the facilities as of the survey date. Condition was categorized in three ways:

(1) Satisfactory for program purposes--implying not only adequacy in the programmatic sense, but physical adequacy as well;

(2) Needing remodeling--which could involve basic configuration changes, or the addition or improvement of heating, lighting, air conditioning, or power;

(3) Needing replacement--implying either major structural defects or a required remodeling change so extensive as to preclude economic feasibility.

Finally, it should be noted that the term "respondent" generally describes a school which submitted a survey instrument, whether or not the instrument was complete, and whether or not it was used in our analysis. In Parts 2 and 3 of this report, which deal with the analysis of the data, it should be understood that "respondent" refers only to those schools whose data were analyzed.

B. ANALYSIS PARAMETERS

A large number of computer-produced tables were developed from the survey data bank. In these tables, the schools were first grouped according to profession only: the results are utilized for the analyses in the subsequent section concerning the national overview of all eight types of schools surveyed. For a more "in-depth" analysis, the schools of each profession were then grouped according to the five parameters of size, control, locale, curriculum type, and census region.

Since the size and curriculum type groupings were defined differently for each profession, their discussion is best left to the profession-by-profession analysis. Schools were designated as "small", "medium", or "large" based upon full-time equivalent (FTE) enrollment (undergraduate plus graduate). "Curriculum type" was a two-way division ("classical", "revised") of the schools based on the level of clinical training in the pharmacy curriculum and the first two years of the medical and dental curricula. The underlying reason for choice of this parameter was to determine whether and how this curriculum characteristic would be reflected in facility configurations. Only the schools of dentistry, medicine, and pharmacy were so categorized.

The concept of "locale", as used in the survey instrument, serves to group the schools into four physical environments. "Inner City" schools are those in the older, central business and residential sectors of heavily populated low-income areas. "Outer City" schools are located within the boundaries of a city but are not in those sections of the city considered "inner city". "Suburban" and "rural" schools are, as implied, found in suburban and rural areas. It was felt that the hypothesized "space-at-a-premium" situation in "inner city" locales and the successively decreasing degrees to which this space availability constraint would be felt in the outer locales, might have an observable impact on the reported facilities configurations.

Two "control" categories are used in the analysis: public and private (non profit). "Public" thus encompasses state, county, and local (city/town) control and funding; while "private" is meant to imply private endowment and (typically) non-profit corporate status. These different types of control might, it was felt, also have an observable impact on facilities configurations.

"Census region", the final categorization parameter, uses the U.S. Census Bureau regional grouping of states into Northeast, North Central, South, and West. Puerto Rico was included in the "South" region for purposes of the study. This parameterization was used primarily for informational rather than analytical purposes, and is used to a limited degree herein.

C. A NOTE OF CAUTION ON THE INTERPRETATION OF SURVEY DATA AND RESULTS

The reader will have inferred from the description of the survey instrument itself and the follow-up and editing procedures employed that the survey was a massive undertaking for each respondent. We cannot be overgenerous in our praise and thanks to those schools which willingly gave of their resources in order to give this survey the response rate ultimately attained. It should be recognized, however, that because of the level of difficulty inherent in responding to the many and varied data requests of the instrument, and, in fact, because of the subjective nature of many of the questions, it is to be expected that some of the individual responses to particular questions will be inaccurate. A statistical construct known as the "Central Limit Theorem", tells us, in essence, that if the data's inaccuracies are randomly distributed, then the "bad data on the high side" will "cancel" the "bad data on the low side" and the resultant mean or average value will be reasonably accurate if the sample size is large "enough". Thus, while the mean values observed in that which follows are felt to be most probably representative of the existing facilities situation, the "high" and "low" values may sometime represent misinterpretations on the part of one or two respondents, or, perhaps, a typographical error in the form of an unrecognizable transposition of digits during the machine entry of a completed response.

That the means are considered representative is useful to the reader who desires to gain insight into the answers to the questions promulgating this survey effort. However, this work was definitely not meant to be evaluative in nature, nor is the computation and discussion of means meant to imply their use as norms or targets (certainly, the reader would disagree if told that his weight "should" equal the weight of the average U.S. citizen). As will be seen, the analysis to follow attempts to describe the facts as they exist--and attempts to find patterns and trends in these facts: but it always does so in the context of description rather than prescription.

As a final caution, this study attempts to measure, in a number of ways, the utilization of health professions education facilities. The sensitivity of the topic of utilization varies as a function of the measure used, and it is felt that the "percentage utilization" figures derived for classrooms and class laboratories are among the most sensitive. It should thus be recognized that the manner in which these percentages were derived (see Appendix G for details) tended to give results lower than the "true" percentages on a school-by-school basis, primarily due to our choice of a 2,080 hour year in place of the (typically shorter) "academic year" reported by respondents. The reason for this substitution was to put all schools on a comparable basis so that the utilization patterns exhibited across groups of schools (e.g., various locales) could be recognized. Thus, it is not the absolute magnitude of the percentages obtained which is important, but it is the relative magnitudes which give insight into the differences in utilization related to differences in school characteristics.

PART 2: NATIONAL OVERVIEW OF SURVEY FINDINGS

I. INTRODUCTION

Survey forms were sent to 308 schools of the eight health professions and to 154 "parent" institutions in mid 1973. A total of 269 health professions schools and 134 parent institutions responded to the survey. Of the parent institutions responding, 76 indicated that they made space available, on a joint-use basis, to one or more health professions schools.

Of the 269 health professions schools responding, only 239 were used in the analysis. Table 2.I.1 describes how we arrived at the response rate for each profession, and the health profession school universe in total. It should be noted that new and two-year schools, and forms from established schools that did not respond in a substantive manner were not included in the analysis subpopulation because the reported facilities configurations likely did not represent the total space needed to support a degree granting program and consequently would not be comparable to other respondents. A school was considered new if the final year class had not been enrolled as of academic year 1973-74.

TABLE 2.I.1

DERIVATION OF SURVEY RESPONSE RATE

SCHOOLS OF:	NUMBER OF SCHOOLS IN UNIVERSE	NON-RESPONDENT			RESPONDENTS (NO. 1 - NO.2)	NEW OR 2-YEAR SCHOOLS RESPONDING	ESTABLISHED RESPONDENTS (#3-#4)	NON-SUBSTANTIVE FORMS ESTAB. SCHOOLS	RESPONSES USED IN ANALYSIS (#5-#6)	ANALYZED SCHOOLS AS A % OF ESTABLISHED UNIVERSE (7/(1-2a-4))
		NEW OR 2-YEAR SCHOOLS	ESTABLISHED SCHOOLS	TOTAL (#2a+ #2b)						
	#1	#2a	#2b	#2c	#3	#4	#5	#6	#7	#8
TOTAL	308	5	34	39	269	25	243	5	239	86
DENTISTRY	59	1	5	6	53	7	46	0	46	90
MEDICINE	114	3	13	16	98	13	84	4	81	83
OPTOMETRY	12	0	2	2	10	1	9	0	9	82
OSTEOPATHY	8	1	0	1	7	1	6	1	5	83
PHARMACY	72	0	8	8	64	0	64	0	64	89
PODIATRY	5	0	0	0	5	0	5	0	5	100
PUBLIC HEALTH	18	0	5	5	13	1	12	0	12	71
VETERINARY MEDICINE	20	0	1	1	19	2	17	0	17	94

As described in PART 1, the characterization of schools according to locale, size, and so on was performed for each profession to be analyzed, although these characterizations were seldom used for those professions with very few schools. Table 2.I.2 shows, to the limits of our data concerning the survey universe as a whole, the degree of representation of these various characterizations. It should be noted at this point that the chapters on the individual professions each contain a profession-specific table similar to that which follows.

TABLE 2.I.2

RESPONSE RATES FOR KNOWN CHARACTERISTICS OF THE SURVEY UNIVERSE

ALL SCHOOLS	NUMBER OF SCHOOLS IN UNIVERSE	NON-RESPONDENT			RESPONDENTS (NO. 1 - NO.2)	NEW OR 2-YEAR SCHOOLS RESPONDING	ESTABLISHED RESPONDENTS (#3-#4)	NON-SUBSTANTIVE FORMS ESTAB. SCHOOLS	RESPONSES USED IN ANALYSIS (#5-#6)	ANALYZED SCHOOLS AS A % OF ESTABLISHED UNIVERSE (7/(1-2a-4))
		NEW OR 2-YEAR SCHOOLS	ESTABLISHED SCHOOLS	TOTAL (#2a+ #2b)						
	#1	#2a	#2b	#2c	#3	#4	#5	#6	#7	#8
TOTAL	308	5	34	39	269	25	243	5	239	86
LARGE	69	0	3	3	66	0	66	1	65	94
MEDIUM	137	0	22	22	115	0	115	2	113	82
SMALL	102	5	9	14	88	25	62	2	61	85
PUBLIC	194	3	20	23	171	21	150	2	148	87
PRIVATE	114	2	14	16	98	4	93	3	91	84
INNERCITY									101	
OUTERCITY									110	
SUBURBAN									22	
RURAL									6	
CLASSICAL									181	
REVISED									58	
NORTHEAST	71	2	7	10	61	4	56	2	55	85
NORTHCENTRAL	87	1	8	8	79	7	72	2	70	88
SOUTH	101	2	7	9	92	11	81	1	80	91
WEST	49	0	12	12	37	3	34	0	34	74

II. INVENTORY--FALL, 1973

A. NONCLINICAL FACILITIES CONTROLLED BY RESPONDENTS

As may be seen in Table 2.II.1 below, over fifty million Gross Square Feet (GSF) of nonclinical facilities were reported as "owned and controlled" by the 239 health professions schools whose responses are reported herein. The majority of this space, some 34.4 million GSF or 69% of the total, was controlled by 81 schools of medicine. Of the remaining 16.1 million GSF, nearly 7 million were owned by schools of dentistry, with 6.5 million apportioned approximately equally between schools of pharmacy and veterinary medicine.

The survey instrument did not request Gross Square Footage figures corresponding to rented and leased facilities, since it was felt that the latter would often represent portions of buildings, and any GSF reported would thus be an apportionment at best. To avoid apportionment and to assure comparability of room sizes, the survey dealt primarily with Net Assignable Square Footage (NASF). The division between owned and rented NASF is shown in columns 2 and 3 of Table 2.II.1, with the overall average rented portion approaching 6%.

TABLE 2.II.1
OVERVIEW OF NONCLINICAL FACILITIES INVENTORY--FALL, 1973

	NUMBER OF SCHOOLS	OWNED GSF (1)	OWNED NASF* (2)	RENTED NASF* (3)	OWNED NASF* EXCLUDING "ON-SITE" PATIENT CARE" AND "OTHER" (4)	RENTED NASF* EXCLUDING "ON-SITE" PATIENT CARE" AND "OTHER" (5)	NASF* USED IN THE ANALYSIS (6)
TOTAL	239	50,531	32,035	1,776	23,984	1,415	25,399
DENTISTRY	46	6,579	3,995	208	2,181	158	2,339
MEDICINE	81	34,414	21,501	1,354	16,640	1,065	17,705
OPTOMETRY	9	565	354	4	226	0	226
OSTEOPATHY	5	698	571	0	226	0	226
PHARMACY	64	3,060	2,281	13	2,003	13	2,016
PODIATRY	5	263	131	9	77	9	86
PUBLIC HEALTH	12	1,511	844	155	772	144	916
VETERINARY MEDICINE	17	3,441	2,358	33	1,859	26	1,885

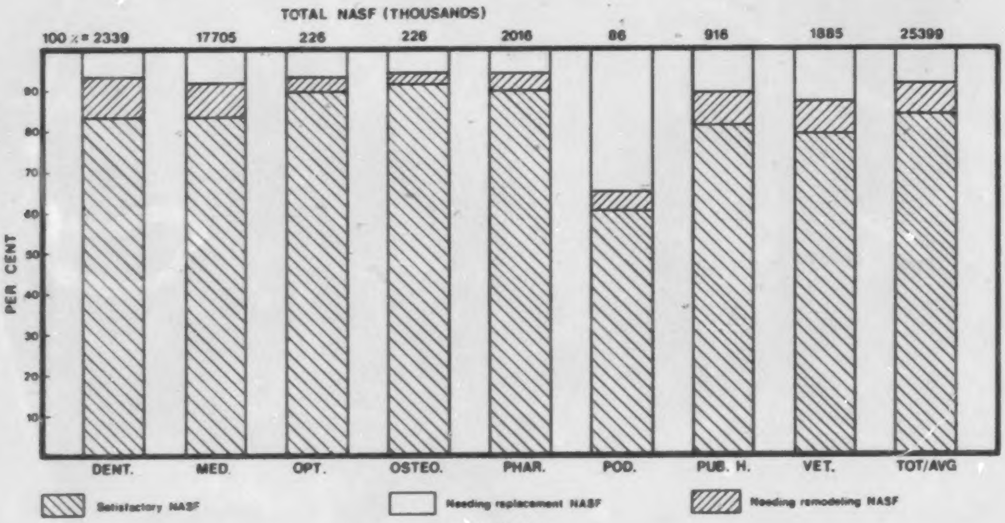
* All figures are in thousands.

Columns 4 and 5 of Table 2.II.1 reflect a reduction in each school's NASF made in the interests of reporting consistency among schools: space reported as "on-site patient care" or "other" has been removed from the NASF total. "Other" space has been removed since it represents such a wide variety of space types that it does not lend itself to meaningful analysis. "On-site patient care" facilities were allowed (by the survey instrument) to be reported on a page dealing with nonclinical facilities if ease of reporting were enhanced. However, "on-site patient care facilities" cannot be included in an analysis of nonclinical facilities. As may be seen, this exclusion particularly impacts schools of dentistry, which classified nearly 29% of their total space as "on-site patient care".

For the survey respondents as a whole, approximately 85% of the 25.4 million Net Assignable Square Feet reported were considered "satisfactory for program purposes" prior to the effects of ongoing construction and remodeling programs (see Figure 2.II.A below). Of the remaining 5.4 million NASF considered unsatisfactory, nearly 1.7 million NASF could be remodeled and 3.7 million needed replacement. Schools of podiatry reported significantly less "satisfactory" space than the average (viz, 57%) with remodelable space representing only 4,000 of the 57,000 NASF considered "unsatisfactory".

FIGURE 2.II.A

CONDITION OF SPACE--FALL, 1973



B. JOINT-USE FACILITIES AVAILABLE TO HEALTH PROFESSIONS SCHOOLS--FALL, 1973

Joint-use facilities, those facilities "not allocated to a health professions school but used by at least one such school", were offered by 76 central administrative agencies. The 7.2 million NASF reported represented a 29% addition to the 25 million NASF controlled by respondents. Nearly 5.1 of the 7.2 million NASF were used by the public sector (57 respondents) with the remaining 1.6 million made available by the 19 private "parent institutions". Placing this 4 to 1 division into the context of the absolute amounts of NASF allocated to the health professions schools in the two sectors, it is found that publicly-controlled health professions schools have approximately three times greater "relative" access to non-allocated joint-use space than private institutions. As will be seen in the discussion of individual health professions, the result is a proportionately greater need for "controlled" space on the part of institutions in the private sector.

Typically, joint-use facilities were made available to 2 or more health professions schools (on a single campus) simultaneously, rather than to one health professions school and one or more other schools of non-related professions. The one exception to this typical structure related to schools of pharmacy, 21 of which were indicated by their so-called "parent institutions" as being the only health profession school to whom joint-use space was offered. Apparently in most instances, pharmacy students take general courses offered by the parent institution during the first two years of a 5-year pharmacy program. Thus, pharmacy schools affiliated with a parent institution show a high incidence of "joint-usage" of facilities.

The room-type with the largest representation was "library", whose 3.1 million NASF represented 43% of the total joint-use space offered. Classroom space, also multi-purpose in nature, accounted for another 14.5% of the joint-use facilities. The space distribution over the remaining room-types, and summary data on numbers of rooms and student stations, may be seen in Table 2.II.2.

TABLE 2.II.2
DISTRIBUTION OF SPACE AMONG JOINT-USE ROOM-TYPES

	NASF(000)	% OF TOTAL	NUMBER OF STUDENT STATIONS	NASF PER* STATION	NUMBER OF ROOMS	NASF PER* ROOM
Classrooms	1,052	14.5	74,678	13	1,197	879
Class Laboratories	689	9.5	13,185	45	647	1,065
Res. & Res. Train.	650	9.0	1,596	148	1,777	366
Library	3,129	43.2	32,225	84	--	--
Auditoria	275	3.8	29,758	9	75	3,627
Faculty Offices	417	5.8	--	--	1,252	331
Administrative Offices	602	8.3	--	--	--	--
Animal Facilities	432	6.0	--	--	--	--

* A few institutions did not supply the number of stations and/or rooms associated with the NASF in each room-type category. The NASF per room and NASF per student station figures displayed were calculated from only those institutions which supplied both data items required in the computation, and thus reflect the true means, rather than "total NASF divided by the number of rooms (stations) reported".

The condition of these facilities was, on the whole, somewhat better than that of the "allocated" (controlled) inventory. While only 84% of the latter was reported as "satisfactory", the corresponding percentage for joint-use space was 92%. This percentage was engendered primarily by the public sector's overwhelming portion of the joint-use inventory, with the 19 institutions in the private sector reporting an aggregate of 97% satisfactory space.

Three percent of the private sector's joint-use space was reported to be in a state which could not be rectified through remodeling. The corresponding figure for the public institutions was 3.2%, but the latter represents 183,000 NASF, nearly four times the absolute amount reported by institutions in the private sector.

On a room-type basis, the "satisfactory space" percentages (92%) barely fluctuate, with two exceptions. Only 78% of animal facilities in the private sector were considered satisfactory; and only 85% of the auditorium space in the public sector was considered satisfactory. In sum, while 8% of 7.2 million NASF is quite significant in terms of remodeling or replacement dollars, no particular room-type exhibits a highly disproportionate need.

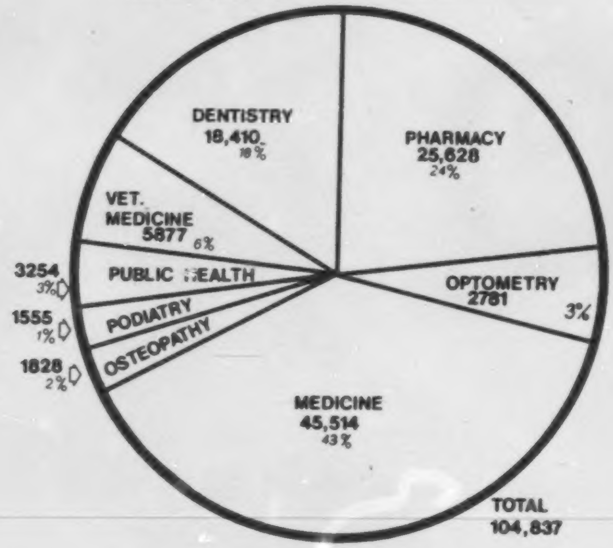
C. THE STUDENT POPULATION UTILIZING THE FALL, 1973 INVENTORY

The total full-time equivalent enrollment reported in the 239 responses used was 104,837. Forty-three percent of these students were enrolled at medical schools, with the bulk of the remainder in schools of pharmacy and dentistry. Furthermore, the respondents reported that 272,500 "other" students were using the "allocated" facilities (for example, continuing education, interns and residents, students in the allied health fields, and so on). Figure 2.II.B below, details the percentage distribution of full-time equivalent enrollment reported by the respondents in each of the eight health professions surveyed.

The apportionment of full-time equivalent enrollment (graduate plus undergraduate) over the four locale types "innercity", "outercity", "suburban", and "rural" showed that 93% of the approximately 104.8 thousand FTE students were enrolled in innercity and outercity locales (divided approximately 50/50); and the remaining 7% were divided in approximately a 3.5 to 1 ratio between suburban and rural settings. The 91 schools in the private sector accounted for approximately 40.9 thousand of the FTE enrollment (39%), while the remainder (63.9 thousand) were reported by the 148 schools in the public sector (61%).

FIGURE 2.II.B

DISTRIBUTION OF STUDENT POPULATION (FTE GRADUATE AND UNDERGRADUATE HEALTH PROFESSIONS STUDENTS)

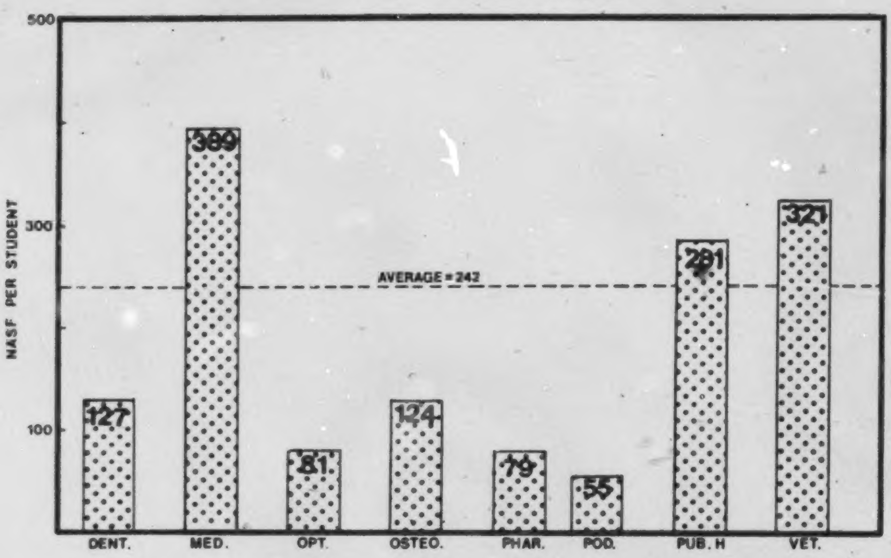


D. USAGE OF THE CURRENT INVENTORY

Combining the full-time equivalent enrollment information with the net assignable square footage information previously described yields initial insight into the intensity of use to which the various professions put their respective controlled ("allocated") space. Total nonclinical instruction facilities per student were reported to be 242 NASF. This figure is interesting only to the extent that it helps highlight the understandably wide differences among the professions (see Figure 2.II.C); and as a topic is best left to profession-by-profession analysis, as are most topics of facilities usage.

FIGURE 2.II.C

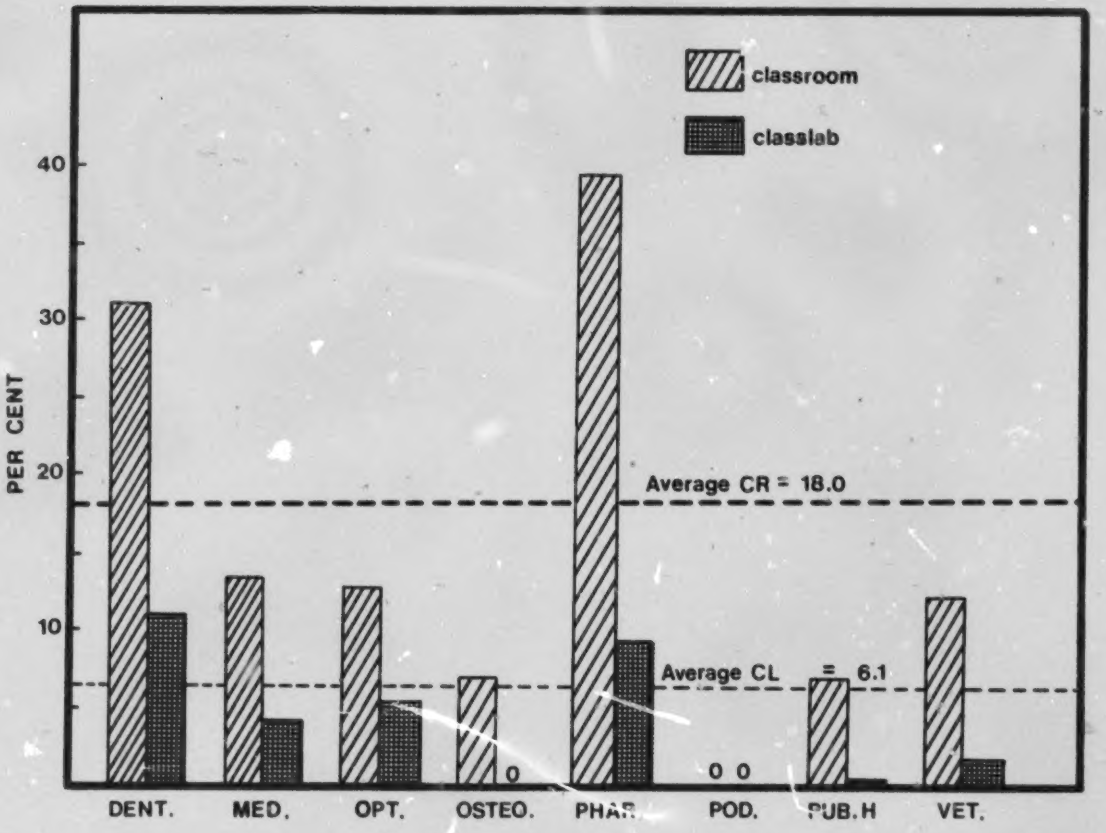
NASF PER STUDENT, FALL, 1973



In only one case has a comparison been pursued: that of the relative availability of joint-use space for classroom and class laboratory instructional purposes. To study the issue of relative joint-usage, the researchers added the number of hours that each health profession reported jointly-utilizing classrooms and class laboratories and divided this value (by type of space) to the total hours used in "controlled" facilities. Obviously, the ratio would give some indication of the relative degree to which each of the eight professions utilized classrooms and class laboratories not under their control. This computation pointed up in quantitative terms the "dependency" of the schools upon cross-utilization of facilities. Classrooms in schools of pharmacy showed a ratio of 39.2% reflecting the previously described practice of teaching early courses together with students from other curricula. Schools of medicine, reporting 122 thousand hours of joint-usage per year (the highest in the sample) exhibited a 15% ratio of joint-use to controlled hours; while schools of dentistry indicated a ratio of 31%. These relationships are portrayed in Figure 2.II.D.

FIGURE 2.II.D

UTILIZATION OF JOINT-USE SPACE FOR CLASSROOM AND CLASS LABORATORY INSTRUCTION--FALL, 1973



The picture was quite different for class laboratory "dependency" as may also be seen in Figure 2.II.D. The "all-respondents'" average percentage was 6.1, with the high exhibited by schools of dentistry (16.3%). Schools of pharmacy were again relatively high at 10.4%. The specialized nature of the activities that take place in class laboratories (as opposed to classrooms) limits the possibilities for joint usage by a number of professions.

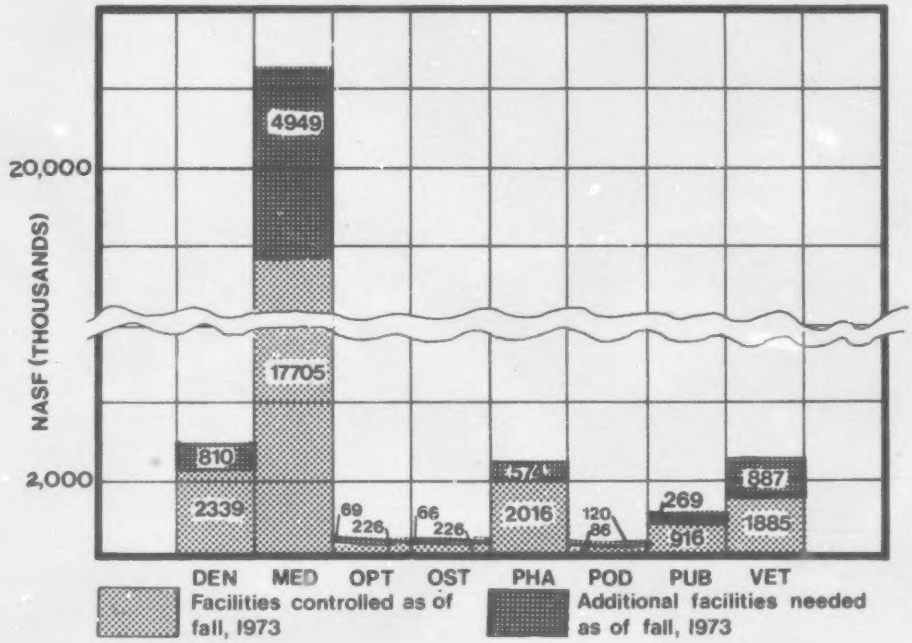
E. FACILITIES NEEDED PRIOR TO ONGOING CONSTRUCTION AND REMODELING--FALL, 1973

Each respondent was asked to indicate the Net Assignable Square Footage of space (by type of space) needed to satisfactorily accommodate fall, 1973 full-time undergraduate and graduate health professions enrollment. Respondents were further instructed not to consider the capacity of ongoing construction or remodeling programs to alleviate this need.

Respondents reported that just over 7.7 million NASF of space were needed as of fall, 1973, a figure representing 30.3 percent of the inventory as of the survey date. Since two-thirds of this need was reported to be due to overcrowding, it may be concluded that if respondents' subjective estimates are at all accurate, between 20 and 25 percent expansion in facilities would be required to accommodate (pre construction) enrollment.

FIGURE 2.II.E

NONCLINICAL FACILITIES NEEDS, FALL, 1973



Recognizing that the needs of schools might not always be facilities-oriented, but attempting to remain within the intended scope of the study, the survey instrument asked respondents to indicate the resources (other than facilities) which they felt were required to "satisfactorily accommodate" their present student enrollment. The frequencies with which each type of resource was indicated were tallied over all of the health professions, and by health profession. Potential resource needs named explicitly by the instrument were faculty, staff, operating funds, funds for equipment, beds, and examining and treatment rooms. As an integral part of the same question, respondents were also requested to indicate their current minimum need for net assignable square footage by type of space. For the population as a whole, the item most frequently checked was that of "faculty", with staff and operating funds close behind (the frequencies here were 182, 178, and 175, respectively). Faculty office space was the next most frequently indicated resource need (145 tallies). The need for hospital beds was indicated the smallest number of times (44), although 22 of the 81 respondent schools of medicine did indicate such a need.

F. CLINICAL FACILITIES AVAILABLE FOR RESPONDENTS' USE--FALL, 1973

Survey respondents reported a total of 131.8 million gross square feet of clinical instruction (student-patient contact) facilities available for their use excluding the so-called "minor affiliates". Since, as instructed, two or more schools using the same hospital had reported the hospital's total GSF, duplicate hospitals were carefully omitted from this tally. There were 86 owned, and 278 different major affiliated hospitals and clinics reported.

The total availability of beds (or in the case of veterinary medicine, animal holding units) for clinical training, including so-called "minor affiliates" and "on-site patient care facilities", was over 240,000 for the respondents as a whole. The total availability of ambulatory patient stations (in examining and treatment rooms) was about 33,000. (It should be noted that the latter figures do represent a minor degree of double counting, most often by schools of two or more different health professions. Since the instructional use of one bed by two different health professions does not give rise to much competition for the clinical resource, the double counting of such resources (in the total) is not considered a serious problem. At any rate, the degree of double counting is known to be no more than approximately 2%.)

In addition to the owned and major affiliated hospitals and clinics reported by respondents, 721 other hospitals and clinics were reported as used for instructional purposes, although not as major components in the clinical training program. These clinical facilities represented a total of nearly 107,000 teaching beds. Schools of medicine reported the use of 350 "minor affiliates", with a total of nearly 75,000 beds.

In addition to facilities for student-patient contact, hospitals and clinics reported 5.85 million NASF of non-clinical instruction facilities (such as classrooms and class laboratories) available for health professions school use. The bulk of the latter facilities were used by schools of medicine (5.05 million NASF). In contrast to the eighty-five percent of the non-clinic-based instructional facilities reported as "satisfactory" for program purposes, only 73% of the nonclinical instruction facilities in hospitals and clinics were reported "satisfactory". Just over half of the remaining space is considered to need only remodeling in order to bring it to a satisfactory state.

Major uses to which these nonclinical instruction facilities in clinical areas were put varied greatly from profession to profession as will be detailed later. For schools of osteopathy, for example, over 46 percent of the space was classroom-type: the corresponding figure for schools of medicine was 11 percent. Schools of dentistry indicated that auditoria represented the greatest proportion of the facilities that they used in hospitals and clinics (44%).

Table 2.II.3 below details, for each health profession and each type of space defined on the survey form, the total NASF that was available for use by health professions students, excluding inpatient care areas, ambulatory areas, and "joint-use" facilities. It is important to recognize two major points here:

(1) the sum across each row for "classroom type" through "animal facilities" will not necessarily equal the figure reported in the "total" column. Many respondents were not able to allocate the total space used (in hospitals and clinics) among the various space types; as a result they reported only the total.

(2) The survey's instructions indicated that if two or more schools were using the same non-clinical instruction facilities at a given hospital or clinic, they should both report the entire facility, and indicate the other schools involved. A number of cases occured in which this situation was found; so an apportionment procedure, based upon each school's usage of the facilities, was instituted. In brief, "usage" was defined as student contact hour loading produced by each school. (See Appendix I for a description of the method).

TABLE 2.II.3

TOTAL AVAILABILITY OF INSTRUCTIONAL SPACE IN CLINICAL AND NONCLINICAL SETTINGS*

FALL - 1973

	TOTAL	CLASS-ROOMS	CLASS-LABS	RE-SEARCH	LIB-RARY	AUDI-TORIA	FACULTY OFFICES	ADMINIS-TRATIVE	ANIMAL FACIL-ITIES
Dentistry	2,539	299	665	483	173	109	451	258	74
Medicine	22,751	1,451	2,176	9,074	1,410	606	3,300	2,435	1,444
Optometry	233	36	74	29	27	6	31	29	1
Osteopathy	287	54	49	26	28	13	53	47	12
Pharmacy	2,260	223	785	546	163	93	71	129	64
Podiatry	87	29	21	1	6	4	10	14	0
Public Health	921	92	45	341	56	20	223	103	44
Veterinary Medicine	2,173	128	388	665	56	16	190	109	592
Total	31,251	2,312	4,203	11,165	1,919	867	4,329	3,124	2,231

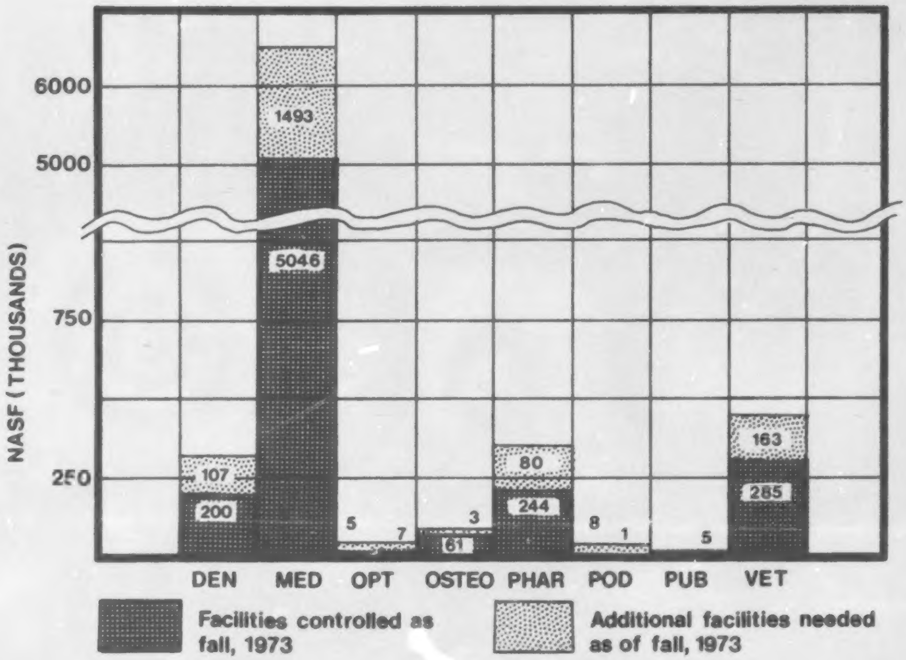
Note: This table tallies the total availability of instructional space in clinical and nonclinical settings, but excludes joint-use space.

* All figures are in thousands of NASF.

G. CLINICAL FACILITIES NEEDS PRIOR TO ONGOING CONSTRUCTION AND REMODELING PROGRAMS

Analogous with the information gathered on allocated (controlled) nonclinical facilities, respondents were requested to report, for each owned and major affiliated hospital, the NASF felt to be required for satisfactorily accommodating fall, 1973 enrollment levels. Again, respondents were instructed not to consider any ameliorating effects of existing construction and remodeling programs. In all, 1.86 million NASF were perceived as needed, 54% of which were for relief of overcrowding at medical schools' owned and major affiliated hospitals.

FIGURE 2.II.F
CLINICAL FACILITIES NEEDS, FALL, 1973



In an effort to gain insight into the future potential for transforming (into major affiliates) the 721 minor affiliated hospitals and clinics reported by respondents, the survey instrument requested the reason, if any, why these affiliates were not used as major affiliates. For the 573 cases in which this question was answered, there were 162 cases of "no particular problem", 81 cases of "lack of sufficient faculty to use the facility", and 31 cases of "interpersonal or interorganizational problems currently preclude the possibility". At first glance, then, it would appear that about 40% of these facilities (representing 46,000 beds and 1,500 ambulatory patient stations) could be transformed into major affiliates, if needed, at minimal expense from the point of view of physical plant.

Of the other reasons cited, the problem of distance from the school's instructional facility was noted most frequently (91 occurrences). Frequencies with which other reasons were given were: 30 (physical facilities must be altered); 51 (clinical material not adequate); and 44 ("other"). The above reported facilities thus represent a clinical teaching resource which can be brought to bear if additional major affiliation agreements can be provided.

III. ONGOING CONSTRUCTION AND REMODELING AS OF FALL, 1973, AND THE POST CONSTRUCTION INVENTORY

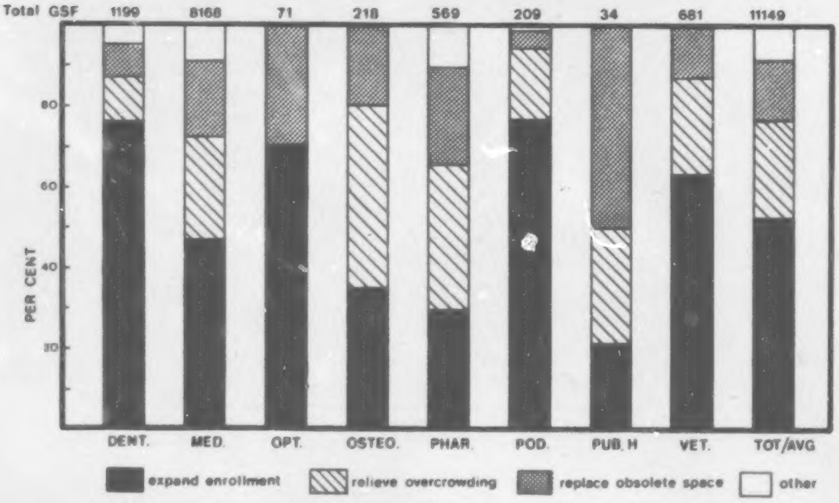
A. NONCLINICAL INSTRUCTION FACILITIES

1. Extent of Ongoing Construction and Remodeling

60 of the 239 respondent schools reported 11.1 million GSF (5.17 million NASF) under construction as of the survey date, at a cost of about $750 million. Remodeling was much less prevalent (about 1.65 million Net Square Feet reported by 68 schools), and much less expensive. The total expenditure for the remodeling was reported as $64.7 million -- an average of $38. per NSF as opposed to the $66 per GSF new construction cost. Schools of medicine accounted for just over 75% of the total expenditure for new construction, with schools of dentistry and veterinary medicine combined accounting for another 17.5%. These three professions were also the most notable with regard to their ongoing remodeling efforts, with nearly 78% of the reported total underway at schools of medicine and another 19% at schools of dentistry and veterinary medicine.

FIGURE 2.III.A

AMOUNT AND PURPOSE OF ONGOING AND FULLY AUTHORIZED NEW CONSTRUCTION OF ALLOCATED FACILITIES



In reporting the purposes of the Gross Square Footage of new construction, respondents indicated that 32% of the new space was for the purposes of relieving overcrowding; with 37%, 21%, and 8%, respectively, for expanding enrollment, replacing obsolete space, and other purposes. Applying the 32% to the (5.17 million) NASF being constructed, we obtain 1.65 million NASF being built for relief of overcrowding. Recalling that of the 7.7 million NASF preconstruction need expressed by respondents, approximately two-thirds was for relief of overcrowding, it can be seen that the construction in progress as of the survey date would serve to fulfill only 32% of these needs. Moreover, since 37% of the ongoing construction was for the expressed purpose of expanding enrollment, the problem of overcrowding may be heightened for particular room types.

2. Sources of Funds for Ongoing Construction and Remodeling, Fall 1973

Of the $823 million construction and remodeling cost reported for nonclinical instruction facilities, 41% was obtained through state and local sources, with HPEA construction grants the second largest source of funds at 27%. Of the remaining $201 million, borrowed funds, philanthropic contributions, and institutions' private funds ranked about equally at the $50 million level, with the remaining $50 million being supplied by "other federal" and "other" sources. It should be noted that the above figures by no means represent all of the Nation's health profession school-related construction and remodeling dollars, even for our respondent population. An additional $1.25 billion expenditure for construction and remodeling of hospitals and clinics will be described in a later section.

We bring up the latter expenditure since, as a function of the design of the survey instrument, $92 million of funding reported under the HPEA Act appears under construction and remodeling in major affiliated hospitals and clinics. These funds were used in the validation of the HPEA funding data supplied by respondents, as described below.

In an effort to validate the results obtained in response to those sections of the survey pertaining to the sources of funding for ongoing construction and remodeling programs, BHM data files concerning HPEA construction grants were accessed for the responding and non-responding schools. The BHM data indicated that a total of $321 million was awarded for construction and remodeling programs effective as of fall, 1973. The survey respondents reported $316 million of HPEA grants. Two areas were identified for explaining this 1.6 percent discrepancy. First, although we cannot specify the exact amount, it was determined that some respondents had placed certain of the HPEA supplied funding into the category "other Federal sources", thus lowering the survey figures. Partially compensating for that decrease, however, was the inclusion of an also undetermined amount of special projects grants in the survey's HPEA figure. In short, then, these two factors resulted in a small overall variance between survey findings and Federal figures, but they do not have major impact on the general analysis.

As a further comparison, the BHM data were distributed by control, size, and profession--in a manner paralleling that used in the analysis of the survey data. This comparison revealed another difference between the respective sets of figures. When HPEA funds are used by two or more schools in a joint project, an "allocation" of these funds (to the participating schools) is made by BHM through an algorithm based on the school's projected usage of the new facility. Survey response data were likewise apportioned, but, as a function of data availability, a different algorithm was used herein. As a result, an (again) undetermined but relatively minor amount of money was attributed to professions and size groups in a different manner than that inherent in the Government's figures.

An additional benefit was derived from accessing BHM files since the survey did not attempt to gather historical data relating to source of funds. This information is, of course, available in the BHM files. Therefore, to give a macroscopic view of the HPEA Act's contributions to the health professions facilities configuration, BHM data will be related here.

Overall, from 1965 through the fall of 1973 HPEA construction grants totalled approximately $927 million. Eighty-one percent of this figure was represented by the respondent institutions used in the survey analysis. For the latter subpopulation of the survey universe, almost twice as much

HPEA funding has been made available to publicly controlled schools as to those in the private sector (see Figure 2.III.B); while about one and one-half times as much has been given to schools which, by 1973, were "medium sized" than were "small" or "large" by that point in time. Obviously, the funding had, itself, shifted schools upward in size over the ten year life of the Program.

FIGURE 2.III.B

HPEA CONTRIBUTION AS A FUNCTION OF SIZE AND CONTROL OF SCHOOL

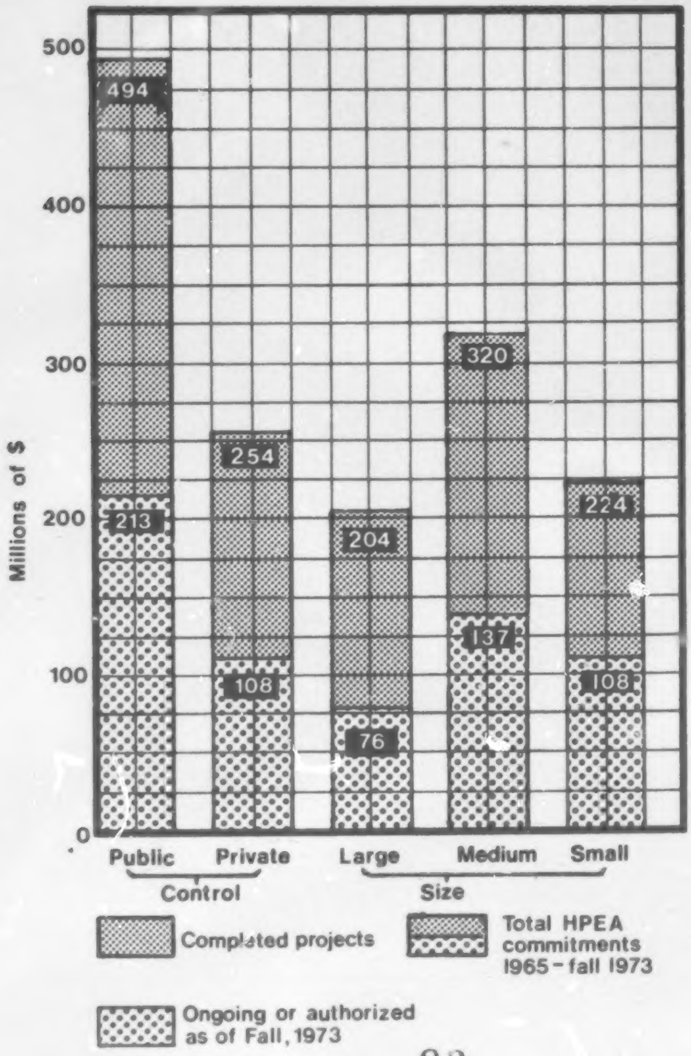
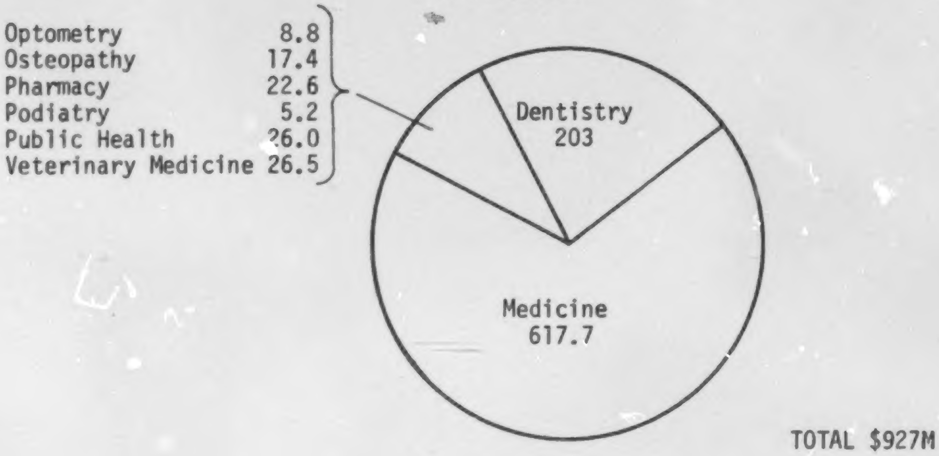


Figure 2.III.C apportions the total HPEA construction grant outlay among the Nation's health professions schools.

FIGURE 2.III.C
HPEA CONSTRUCTION GRANTS FOR CONSTRUCTION AND REMODELING OF CLINICAL AND NONCLINICAL INSTRUCTION FACILITIES -- 1965 - FALL, 1973



3. Effects of Construction and Remodeling

a. An Assumption

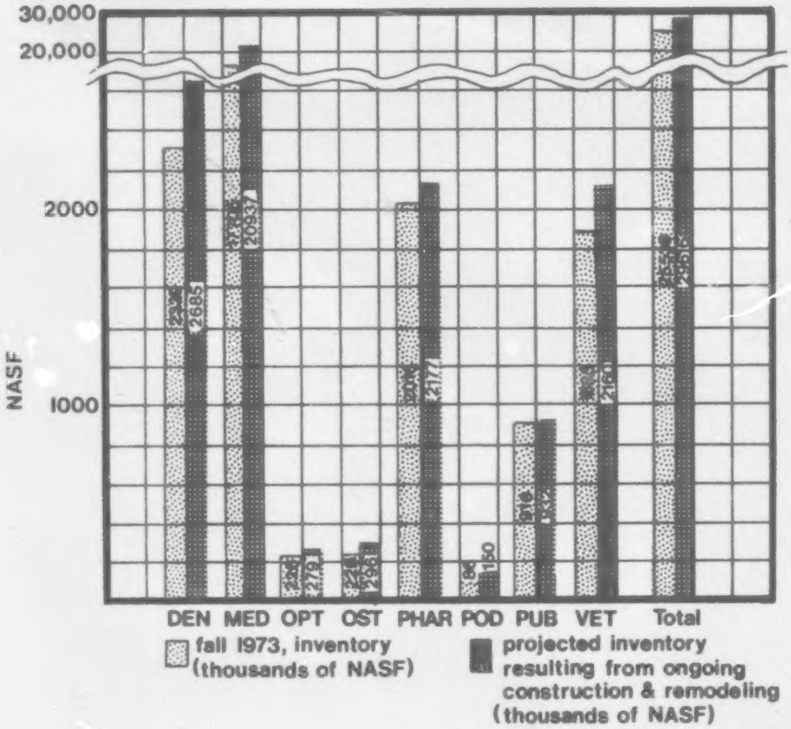
The ongoing construction and remodeling programs reported by respondents as of fall, 1973 were expected to be completed at various points in the time ranging from the end of 1973 to 1978. In an attempt to assess the changes concomitant to these construction programs, a concept called "the post construction period" has been defined. For a given school, the "post construction period" begins when the ongoing construction and remodeling program is completed. Respondents were asked to estimate the configuration of "allocated" facilities expected to constitute the post construction inventory, and were further requested to forecast the concomitant student population. Assuming no further change in these two variables, and assuming constancy in the myriad of other variables which could affect the educational process, we may assess such measures as classroom and class laboratory utilization, NASF per student by type of space, and so on, for that period of time (of indeterminate length) following the completion of construction and remodeling. For two schools whose construction programs end on different dates, the assumption of constancy for each implies that the "aggregate" post construction period begins at the time of completion of the construction program to be completed last. While it is understood that the above assumptions will most likely not hold true, the figures obtained do help forecast the trends that we may expect to see in various measures. Thus, for example, the forecasted increase of nearly 9,300 FTE undergraduate and graduate students between the current and post construction periods (discussed below) may not represent the actual increase which will be seen to have occurred at some future time (e.g., 1978): it does, however, yield a valuable order of magnitude estimate of the size and direction which we may expect undergraduate and graduate enrollment to take in the near-term.

b. The Post Construction Inventory and Student Population

Ongoing construction and remodeling programs will add over 4.2 million NASF to the aggregate nonclinical facilities inventory allocated to the 239 respondents analyzed. This overall expansion of 16.6% over the fall, 1973 inventory is not consistently apportioned over the eight professions, as seen in Figure 2.III.D. Rather, schools of podiatry, which reported one of the lowest NASF per student figures as of fall, 1973, indicate a facilities expansion of 74.4% (from 86,000 to 150,000 NASF), while the 16,000 NASF expansion in public health schools' inventories represents an addition of only 1.7%.

FIGURE 2.III.D

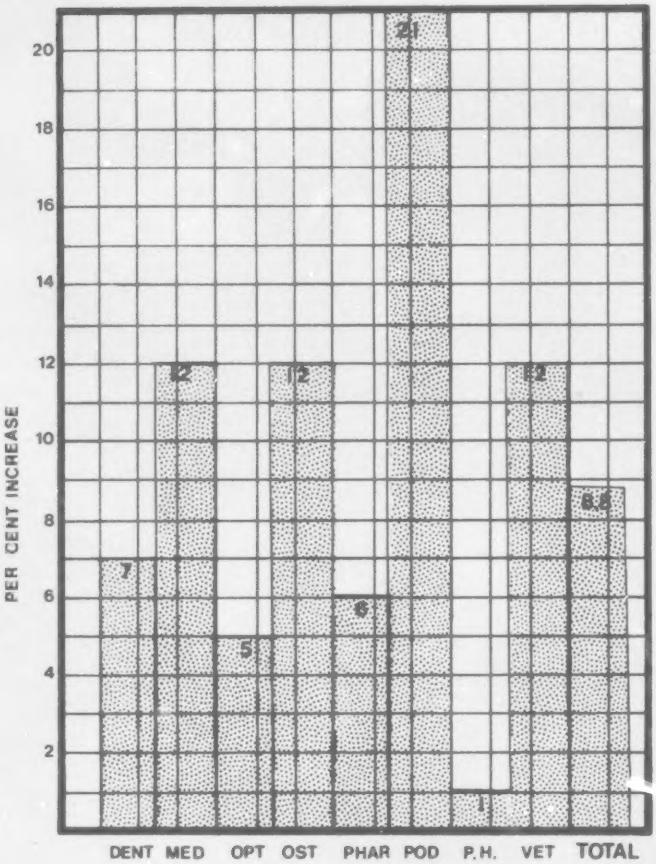
COMPARISON OF FALL, 1973 NASF WITH NASF IN THE "POST CONSTRUCTION" PERIOD



The enrollment increase noted in the previous section represents 8.8% of the fall, 1973 undergraduate and graduate health profession FTE enrollment. On a by-profession basis, this percentage increase is highly variable and is detailed in Figure 2.III.E.

FIGURE 2.III.E

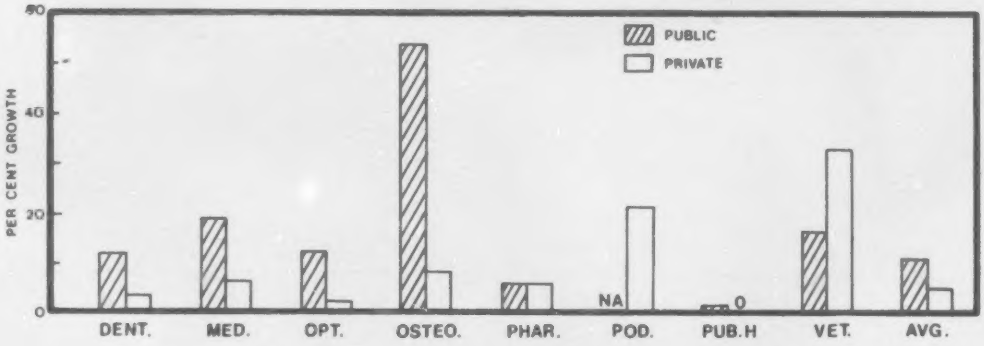
HEALTH-PROFESSIONS SCHOOLS' PROJECTED INCREASES IN ENROLLMENT IN THE "POST CONSTRUCTION" PERIOD



By viewing the enrollment increases on the basis of control of school, it becomes apparent that the public sector is expected to grow at a much greater rate than is the private sector. The average percentage enrollment increase was 11% for respondents in the public sector, and only 5.5% for the private sector. This trend was very strongly evidenced for schools of dentistry, medicine, optometry, and osteopathy, with schools of veterinary medicine being the only schools whose figures represented a marked departure.

FIGURE 2.III.F

COMPARISON OF PUBLIC AND PRIVATE SECTOR GRADUATE AND UNDERGRADUATE FTE ENROLLMENT GROWTH, PRE-CONSTRUCTION (FALL, 1973) TO POST-CONSTRUCTION



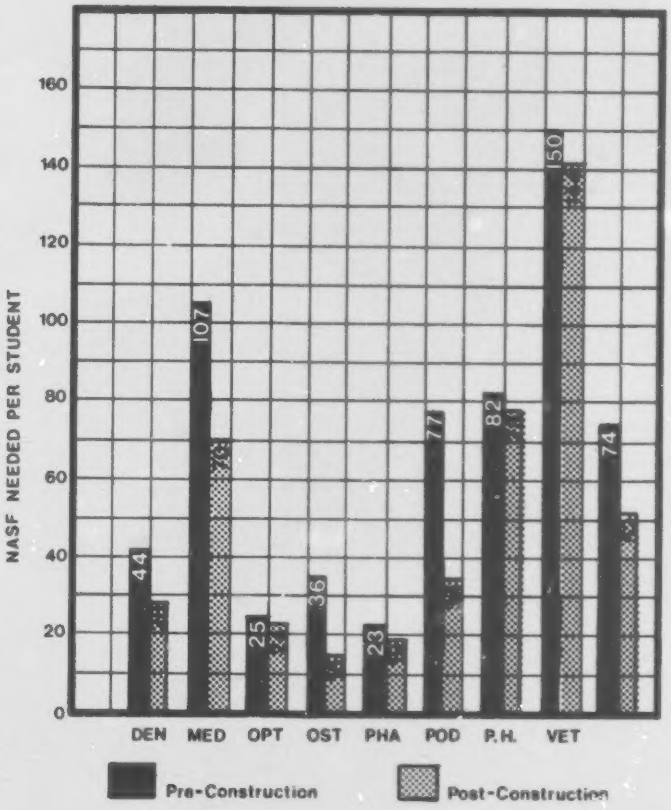
An interesting statistic, the "construction cost per added student" is obtained by summing (for those schools reporting a construction or remodeling program) the cost of the construction and remodeling, and dividing it by the difference between projected "post construction" enrollment and enrollment as of the survey date. (It must be noted here that schools which left the "post construction enrollment" column blank on the survey instrument would, it was assumed, not show any enrollment change between the survey date and the point in time at which the construction was completed). Measured in this manner, the average cost per additional health professions student was $85,000. If we apply only that percentage of new construction associated with enrollment expansion and compute the costs on the same basis, then only 37% of the $85,000 is applicable, or $32,000.

c. Post Construction Needs

In parallel with questions asked the respondents regarding the need for facilities prior to the start of ongoing construction programs, a similar set of questions was asked regarding the need for facilities following the completion of ongoing construction and remodeling. In all cases but one, the NASF needed on a by-health profession basis decreased. The one exception was that of the schools of veterinary medicine which reported that 43,000 more NASF would be needed than were needed prior to the new construction. This apparent inconsistency may be explained by the large percentage enrollment increase expected by these schools during the post construction period. In fact, as shown in Figure 2.III.G, the NASF needed per student did decrease for schools of veterinary medicine--as it did for all other professions.

FIGURE 2.III.G

COMPARISON OF PRE-CONSTRUCTION NASF NEEDED PER STUDENT WITH POST-CONSTRUCTION NASF NEEDED



d. Requirements for Enrollment Growth

Respondents were asked to estimate the resource requirements for increases of 10% and 20% above the expected post-construction enrollment figures. The 152 respondents answering these questions indicated that a 10% enrollment increment (some 7,400 students) would require 4.4 million NASF of instructional facilities, over 3,300 additional full-time equivalent faculty, nearly 6,500 additional support staff, and $77.6 million additional yearly operating funds. Moreover, approximately $46 million would be required for the additional equipment associated with the increased educational activity. Although at first glance the by-profession figures seem to follow the same distribution as the number of schools reporting from each health profession, placing the projected need on a per incremental student basis yielded the fact that the "cost" per incremental student would vary greatly as a function of health profession. For example, the need for faculty per student averaged .45, ranging from a high of .71 faculty per added student (for schools of medicine) to .095 faculty per student for schools of pharmacy. Support staff per student exhibited the same tendency toward wide fluctuation. The overall reported average increase in operating funds per student was $10,500 with schools of osteopathy reporting a $16,460 per student increase.

The incremental increase in the post construction student population was not without its need for clinical facilities also. Schools of medicine, for example, indicated that an additional 1.37 teaching beds per student (4,700 beds) would be required, while schools of dentistry indicated the need for .68 additional (ambulatory) examining and treatment rooms per added student.

In answering the question regarding a 20% enrollment increase above the expected post construction enrollment, the 152 schools responding to this question indicated that the second 10% of enrollment increase would add to the resources required for the first 10% enrollment increase, but would represent a lesser increase on a per student basis. The overall incremental cost for the (added) 15,000 students would be just over 7 million NASF of instructional facilities, approximately 4,900 additional FTE faculty, 8,200 support staff, $106 million in operating funds, and $61 million in equipment.

B. ONGOING CONSTRUCTION AND REMODELING IN OWNED AND MAJOR AFFILIATED HOSPITALS AND CLINICS--FALL, 1973

The bulk of the 13.9 million GSF of ongoing construction in 64 hospitals and clinics was reported by schools of medicine (approximately 93%), as were 97% of the 2.9 million NSF of ongoing remodeling. Schools of osteopathy indicated only 217,000 GSF of overall activity. For all respondents, approximately 46% of the new construction was reportedly being built for the purposes of replacing obsolete space, while 20% of the space was being constructed for enrollment expansion, and an equivalent amount for overcrowding relief.

Of the total cost of the ongoing new construction and remodeling of patient care teaching facilities, some $1.25 billion, about $725 million were expended by or through schools of medicine. Contrary to the proportions of state and local funding and HPEA funding reported for nonclinical facilities, these two sources represented a total of only 39% for clinical facilities (as opposed to about 68% for non-clinical space). The HPEA construction grants represented just over 7% of the total expenditure, with state and local funding making up the remaining 32%. In the case of hospitals and clinics, it is obvious that borrowing represents a much more frequent source of funds for new construction: 34% were obtained through various lending agencies, as opposed to the 6% borrowed for "nonclinical" facilities construction. Private funds, philanthropic organizations, other federal sources, and miscellaneous sources each contributed between $65 and $100 million to the ongoing construction and remodeling activities reported.

C. ONGOING CONSTRUCTION AND REMODELING OF JOINT-USE FACILITIES

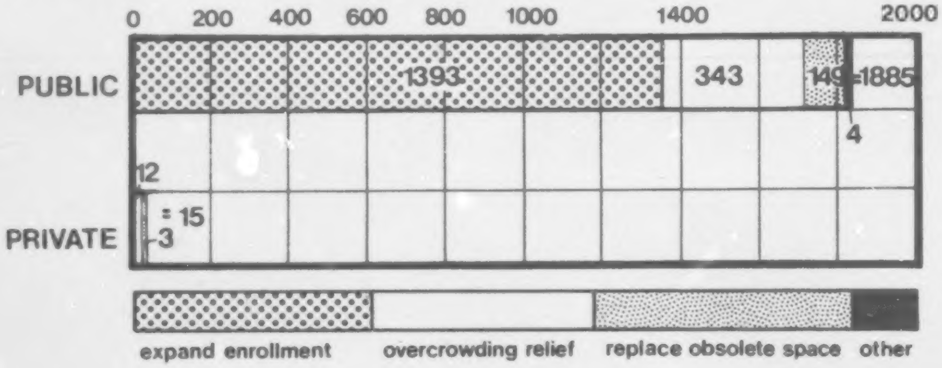
Of the 10 privately controlled "parent" institutions, only two reported ongoing construction of nonclinical joint-use facilities (15,000 Gross Square Feet); while of the 57 public institutions, 12 were constructing 1.9 million GSF as of the survey date. The total reported cost of the new construction was $93.8 million, half of which was reported by a single institution.

Remodeling efforts underway as of the survey date involved 104,000 NASF at an average cost of $20 per square foot. "Parent" institutions in the public sector were again slightly more active in this sphere on an absolute basis (1.18 vs. .9 million NASF) although, relatively speaking, the private "parent institutions" were more active in view of their far fewer numbers.

As illustrated in Figure 2.III.H, 80% of the construction in the private institutions was for the purposes of overcrowding relief, while 73% of the construction in public institutions was for purposes of expanding enrollment. As will be seen in the individual professions' analyses, these figures are representative of the much greater enrollment growth predicted for the public sector. Moreover, the privately controlled institutions tended to be concentrating more on replacement of obsolete facilities, keeping in mind that only 15,000 GSF were being constructed in the private sector as of the survey date.

FIGURE 2.III.H

PURPOSES OF NEW CONSTRUCTION OF JOINT-USE FACILITIES AS A FUNCTION OF CONTROL*



* Note: all figures are in thousands of GSF.

As has been noted, respondents indicated a total of nearly $100 million being spent for ongoing construction and remodeling of joint-use facilities as of the survey date. The data indicate that most (74%) of the financing for joint-use space was from state and local sources.

Overall, the current construction program would increase the available joint-use space by approximately 10% from 7.2 million to 7.9 million NASF. Eighty percent of this space would be built in the public sector, thereby compensating to some degree for the disparity between the amount of allocated NASF per student in the public and private sectors as covered in the by-profession analysis (Part 3).

Although essentially no change will be apparent between the private sector's pre and post-construction inventories due to the scarcity of construction programs in that sector, an 11% expansion was reported in the joint-use inventory of the public sector. Most of this expansion is projected to be concentrated in auditoria, faculty offices, and animal facilities.

D. THE 1983 LOOK-AHEAD

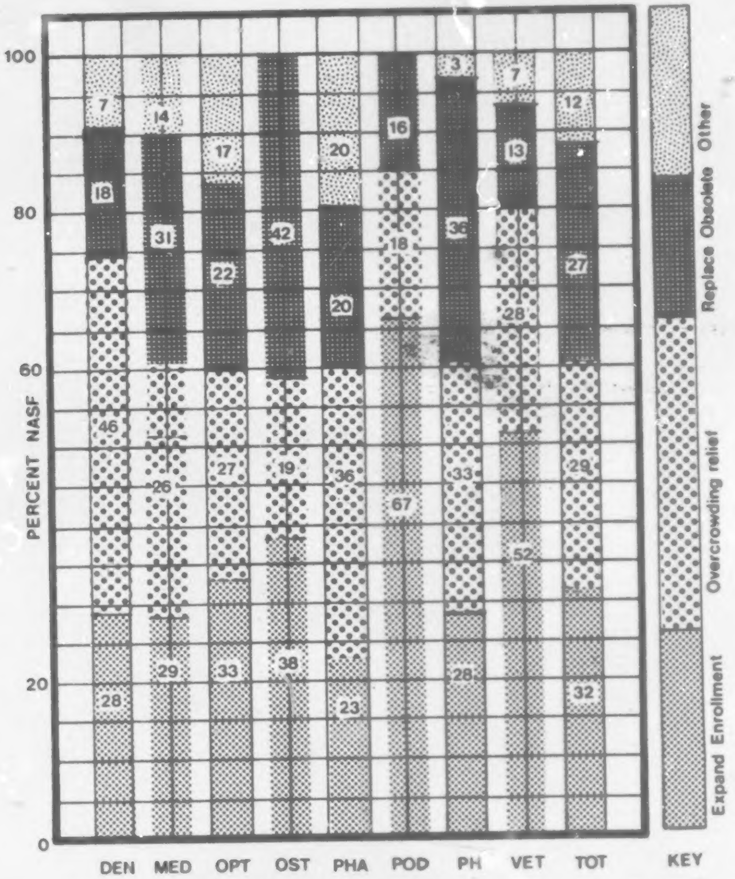
1. Nonclinical Facilities Controlled by Respondents

It was anticipated by the 119 established schools responding to the relevant questions, that an additional 14.4 million NASF of "controlled" facilities (including "on-site patient care" and "other") would be constructed prior to 1983 at these schools over and above the facilities under construction in the fall of 1973. This represents a 37% increase over the comparable post-construction inventory of 39 million NASF.

It is found that the construction to be undertaken through 1983 (excluding ongoing programs) is similar in purpose to the ongoing construction programs reported. For example, while 32% of the GSF under construction in the fall of 1973 are for purposes of overcrowding relief, respondents estimated that 28% of the reported future construction would be for these same purposes. Also as previously noted, 25% of the future construction is attributed to replacement of obsolete facilities, in comparison with the 21% figure estimated by respondents for current construction programs. Overall, it appears that the coming decade will see construction and remodeling activities directed toward improving the balance between enrollment and the facilities inventory, as the effects of the high-flux period of the preceding decade become integrated into the educational system. As is seen in Figure 2.III.I, this trend toward integration and (to some degree) improvement does not hold for each profession. In particular, it is apparent that schools of veterinary medicine and podiatry anticipated a rapid growth cycle yet to come, with schools of veterinary medicine planning 52% of new construction for enrollment expansion purposes, and schools of podiatry indicating that approximately 67% of planned new construction would be for enrollment expansion.

FIGURE 2.III.I

PURPOSES OF PLANNED CONSTRUCTION OF ALLOCATED FACILITIES (THROUGH 1983)



Based on respondents' estimates for the post-construction period, the public sector will exhibit about double the enrollment expansion of the private sector. With the exception of medical schools, this difference in enrollment growth rate is expected to decrease during the coming decade, as reflected in respondents' reported construction purposes: the public sector indicated that 40% of their planned construction would be for the purpose of enrollment expansion; while private institutions (excluding medical schools) reported 29%. Medical schools in the public sector may be expected to continue to show a growth rate far outstripping that of their counterparts in the private sector (34% versus 19%).

Private schools, in anticipating that 37% of their planned construction will be for replacement purposes, imply vigorous pursuit of that which appears to be a chronic private sector problem: the need for replacement facilities. The public institutions estimate a corresponding figure of only 14%.

Five schools plan major geographic movement in the coming decade. All of them are currently in outer city locales. Two of these schools expect to relocate to innercity areas, two to suburban settings, and one anticipates relocating to a rural area. Nine other schools reported that they shall be moving into different facilities, without, however, leaving their current geographic location.

2. Clinical Facilities

Reported future construction plans for clinical facilities parallel those for nonclinical instruction facilities, and the kinds of patterns described above are evidenced again, although to a lesser degree. Of the nearly 14.3 million GSF of clinical teaching facilities planned for the coming decade (of which 12.1 million are reported by medical schools), 40% are for the replacement of obsolete space, with the remainder divided 24%, 20%, and 16% for expansion of enrollment, relief of overcrowding, and other purposes, respectively.

3. Enrollment Variation

Between the survey date and 1983, enrollment (headcount) is expected to grow by 28% from 107,243 to 137,254. The greatest relative student enrollment expansions are anticipated by those professions with the smallest enrollment: schools of osteopathy (61%) and podiatry (46%). Schools of medicine represent the largest absolute increase, with approximately 12,900 more students expected to appear in the headcount of 1983 than appeared in 1973 (46,030).

Enrollment growth by 1983 (over post-construction levels) is projected to be 20% in the public sector and 13% in the private sector. If schools of medicine are excluded, the public and private growth percentages both become 20%, the best indication that the differing growth rates (between the sectors) are projected to come more into line with each other. For schools of medicine alone, the private sector reported only a 4.5% growth rate, while the publicly controlled schools showed nearly a 20% increase to a headcount of 38,281 by 1983.

It is interesting to compare the projected figures for facilities and enrollment expansion on the basis of "NASF per student". As may be seen in Table 2.III.1, seven of the eight health professions indicated that planned facilities expansion will more than keep pace with projected enrollment increases, thereby helping alleviate a portion of the overcrowding pressure which occurred in prior years. On the other hand, schools of public health appeared to be anticipating enrollments which do not appear to be met with corresponding plans for commensurately increasing the available educational facilities. From the detailed analysis of PART 3, we infer that the decrease in NASF per student anticipated by schools of public health is partially a function of movement toward facilities designed for smaller group teaching.

TABLE 2.III.1

NASF PER STUDENT--1973-1983

	NASF PER STUDENT* 1973	NASF PER STUDENT "POST-CONSTRUCTION"	NASF PER STUDENT 1983
Dentistry	227	245	294
Medicine	497	515	615
Optometry	126	149	180
Osteopathy	314	349	504
Pharmacy	86	89	94
Podiatry	90	140	227
Public Health	267	270	210
Veterinary Medicine	399	403	512

* Each cell in the table is defined as:

> Total NASF controlled by respondents (including "on-site patient-care" and "other") divided by headcount (undergraduate plus graduate) for the "point in time" represented by the column heading.

PART 3: INDIVIDUAL HEALTH PROFESSIONS ANALYSIS

I. SCHOOLS OF DENTISTRY

A. INTRODUCTION

The need for a firm foundation in the basic sciences and the value of practical clinical experience point toward two major impacts upon the physical facilities configurations at schools of dentistry. On the one hand, the facilities must offer some manner of access to the variety of room types typically associated with higher educational pursuits, with, perhaps, a higher than average concentration on laboratory facilities. On the other hand, educational experience in the monitoring and control of dental disorders requires direct patient contact on the part of dental students. Such contact is realistically possible only if dental schools offer a service component among their activities. While to some degree, students' practical experience is obtained in the form of tutorship by private practicioners, the vast majority of clinical experience is obtained in university owned outpatient clinics.

Since it was not the concern of the current study to obtain square footage data on either inpatient or outpatient care facilities, such facilities are not an area of concentration in the analysis. However, in order to ease the reporting requirements, it was decided during the design of the survey instrument to allow respondents to report the square footage of such facilities if they were an intergral part of an education complex. Review of the completed survey forms from dentistry schools indicates that approximately 28% of the facilities reported as "allocated to" dentistry schools are for ambulatory patient care purposes. This is a strikingly greater percentage than any of those evidenced by the other 7 professions surveyed.

The "off-site" clinical facilities utilized by schools of dentistry are essentially similar to the kinds of ambulatory care areas provided by "on-site" care. Inpatient facilities are seldom considered a major component in the teaching program. It should be noted, however, that the amount of nonclinical instruction facilities available (at these "off-site" clinical affiliates) represents a significant adjunct to those facilities commonly considered to be under the schools' control. One of the reasons for this phenomenon is the fact that the most common pairing of health professions schools found in the survey is that of medicine/dentistry. The many similarities between, in particular, the basic biological sciences instruction required by both medical and dental students points toward efficiency in utilization of facilities given that a medical and a dental school can have access to a number of the same classrooms and class laboratories. The preponderance of such joint-usage is well reflected in the data.

In much the same way that medical schools are beginning to introduce clinical instruction earlier in the experience of medical students, a few schools of dentistry indicated that patient contact begins almost with the inception of the students' dental education program. Four of the respondent schools of dentistry were categorized as having a "revised" curriculum type, by virtue of the fact that during the first two years of instruction, the typical student spent less than 80% of his time in classrooms and class laboratories, and over 20% of his time in clinical areas.

As has previously been implied, not only is the nature of a given health profession's educational program a determinant of the types of facilities required for its pursuit, but the size of a given school (in terms of the number of students) may have an independent impact. To assess the latter, the 46 respondents ultimately used in the analysis were displayed on a histogram of FTE undergraduate and graduate enrollment, and divided into three size groups: small, 0-300 students; medium, 301-500 students; and large, above 500 students. These results, and a summary of the survey's response rate for schools of dentistry, are given in Table 3.I.1.

TABLE 3.I.1

DERIVATION OF DENTISTRY SCHOOLS' RESPONSE RATE

SCHOOLS OF: DENTISTRY	NUMBER OF SCHOOLS IN UNIVERSE	NON-RESPONDENT			RESPONDENTS (NO. 1 - NO.2)	NEW SCHOOLS RESPONDING	ESTABLISHED RESPONDENTS (#3-#4)	NON-SUBSTANTIVE FORMS ESTAB. SCHOOLS	RESPONSES USED IN ANALYSIS (#5-#6)	ANALYZED SCHOOLS AS A % OF ESTABLISHED UNIVERSE (7/(1-2a-4))
		NEW SCHOOLS	ESTABLISHED SCHOOLS	TOTAL (#2a+#2b)						
	#1	#2a	#2b	#2c	#3	#4	#5	#6	#7	#8
TOTAL	59	1	5	6	53	7	46	0	46	90
Large	16	0	1	1	15	0	15	0	15	94
Medium	20	0	2	2	18	0	18	0	18	90
Small	23	1	2	3	20	7	13	0	13	87
Public	36	1	3	4	32	6	26	0	26	90
Private	23	0	2	2	21	1	20	0	20	91
Innercity									20	
Outercity									20	
Suburban									6	
Rural									0	
Classical									42	
Revised									4	
Northeast	13	1	0	1	12	1	11	0	11	100
Northcentral	16	0	2	2	14	1	13	0	13	87
South	22	0	1	1	21	4	17	0	17	94
West	8	0	2	2	6	1	5	0	5	71

B. INVENTORY OF NONCLINICAL INSTRUCTION FACILITIES --FALL, 1973

1. Description of Facilities

Including "on-site patient care" and "other" facilities, the 46 degree-granting respondent schools of dentistry reported 4.2 million NASF (6.58 million GSF) of allocated facilities, 93% of which were owned (or leased on a very long-term basis), and the remaining 7% rented or leased. The 26 publicly controlled dentistry schools owned upwards of 95% of their nonclinical instruction facilities, while those in the private sector owned only 89% of their total inventory.

Unless otherwise noted, henceforth, those facilities categorized as "other" will be excluded from the analysis for purposes of comparability among the schools. Discussion of "on-site patient care" facilities will be left for the "clinical facilities" sections of this chapter, and will thus be excluded from the analysis of "nonclinical instruction facilities" with minor exceptions (see Table 3.I.2).

TABLE 3.I.2

OVERVIEW OF DENTISTRY SCHOOLS' ALLOCATED FACILITIES--FALL, 1973

1.	Number of Schools	46
2.	Owned GSF*	6,579
3.	NASF Owned	3,995
4.	NASF Rented/Leased	208
5.	Total NASF	4,203
6.	Less NASF (owned or rented) of "On-Site Patient Care" and "Other" Facilities	1,864
7.	NASF of Nonclinical Instruction Space	2,339

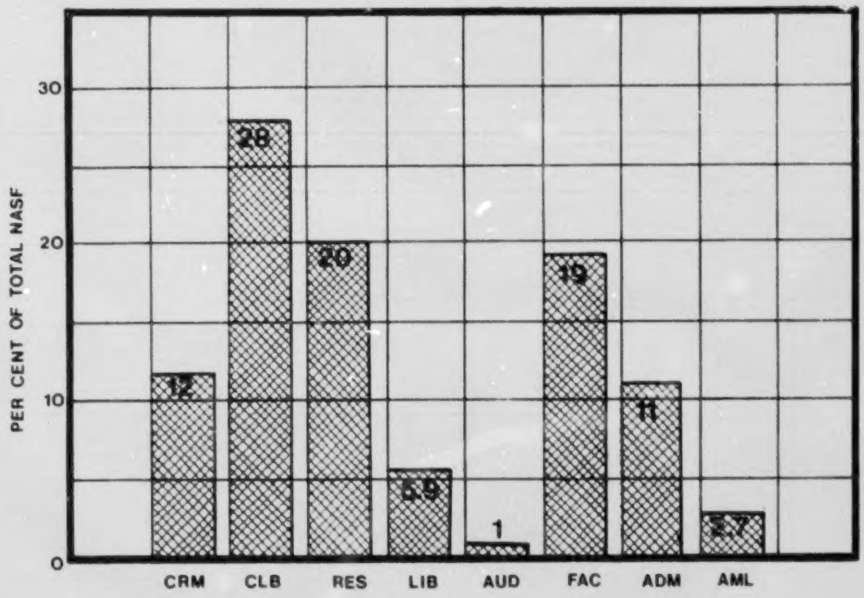
* All GSF and NASF figures are in thousands.

The largest reported inventory, all of it "owned" by the respondent, was 141,000 NASF, and the mean size was 51,000 NASF. Size appears to be related to both "control" and "locale", with observable variation from the mean appearing as the schools are so grouped. Thus, while the "average" publicly controlled school reported 55.3 thousand NASF, its counterpart in the private sector indicated 45.1 thousand NASF of "allocated" space. Similarly, the respective average configuration sizes for the 20 innercity, 20 outercity, and 6 suburban schools were 58, 47, and 41 thousand NASF.

Dentistry schools' "space distribution profile" (the percentages of "classroom", "class laboratory", etc.) were with a few exceptions, fairly constant over the categorizations of schools used in the analysis. Figure 3.I.A gives these percentages for the 45 dentistry schools which reported controlling some amount of space.

FIGURE 3.I.A

DENTISTRY SCHOOLS' DISTRIBUTION PROFILE OF NONCLINICAL INSTRUCTION FACILITIES



Two departures from the consistency of the space profile by the various categories of schools appear to be the greater relative availability of library space in the private schools (10.5%) than in the public schools (2.9%); and a 15.4% versus 10.2% classroom distribution over the two respective sectors. Since these are two space-types among those which are most general purpose in nature, it is assumed that the schools in the public sector shared facilities which were centrally administered by a "parent institution" as defined in the prelude to the analysis in PART 2.

A third departure from the consistent space distribution profile relates to size of school. Viewed in the aggregate for each size group, the average percentage of faculty office space increases as school size decreases: specifically, 16, 20, and 23% of each group's inventory (for large, medium, small) is attributed to faculty offices.

For the purposes of the analysis of respondent dentistry schools, it should be recalled that the "revised" curriculum, exhibited by only four of the 46 respondents, was defined to be one which involved less than 80% of the student's time (during the first two years) in classroom/classlab areas versus clinical areas. It was found that the four "revised" schools reported 25% less classroom space and 22% more administrative office space as percentages of their "allocated" nonclinical instruction facilities than did schools with "classical" curricula.

Table 3.I.3 contains the dental schools' aggregate response to the questions concerning square footage per room and student station.

TABLE 3.I.3

MEAN NASF PER ROOM AND STUDENT STATION FOR DENTISTRY SCHOOLS' NONCLINICAL INSTRUCTION FACILITIES--FALL, 1973

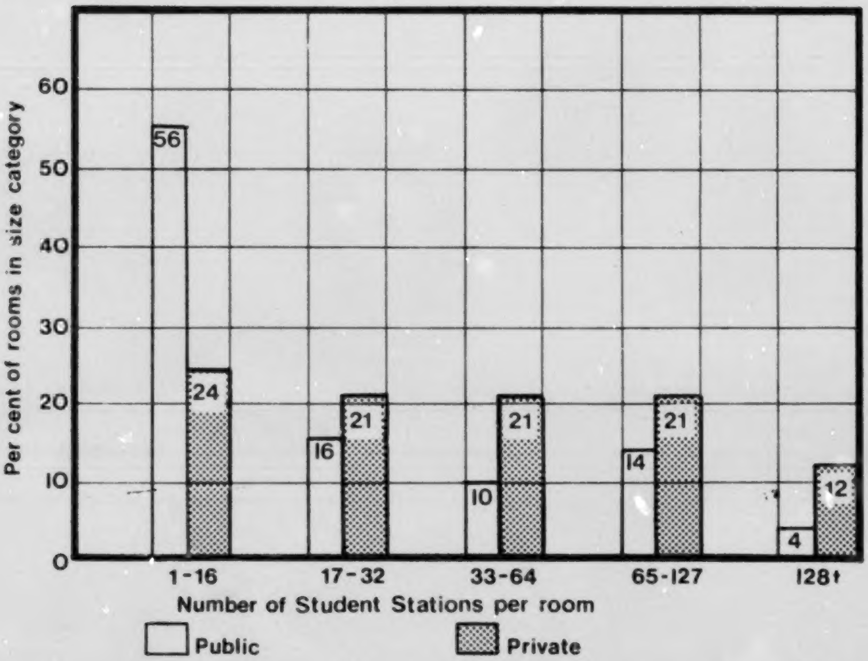
	NUMBER OF NASF (000)	NUMBER OF ROOMS	NUMBER OF STUDENT STATIONS	NASF* PER ROOM	NASF* PER STATION	STATIONS PER ROOM
Classroom	285	412	18,952	693	15	46
Class Laboratory	659	514	15,981	1,282	41	31
Res. & Res. Training	473	1,529	1,542	301	184	2
Library	137	--	1,953	--	70	--
Auditorium	21	5	2,091	4,200	10	420
Faculty Offices	443	3,011	--	142	--	--
Administrative Areas	252	--	--	--	--	--
Animal Facilities	64	--	--	--	--	--

* Computation was performed for only those cases in which both the square footage and room (or student station) data were reported.

Dental schools' distribution of classroom and class laboratory capacities appears to be heavily weighted toward the smaller size categories for the publicly controlled schools, while the privately controlled schools reported essentially equivalent numbers of rooms for all size categories except the largest. This difference is detailed in Figure 3.I.B in which the number of classrooms and class laboratories have been added together for brevity of presentation.

FIGURE 3.I.B

DISTRIBUTION OF SIZES OF CLASSROOMS AND CLASS LABORATORIES, FALL, 1973



2. The Student Population Using the Current Inventory

The 46 responding schools of dentistry indicated that the total FTE enrollment as of the fall of 1973 was 18,410, nine percent of whom were enrolled for degrees beyond the first professional degree. Just over half of the students (53%) were attending publicly controlled schools, with the remaining 47% in the private sector. Over 90% of the nation's dental school students are located in innercity and outercity settings, and no dental school reported itself as located in a rural locale (see Table 3.I.4).

TABLE 3.I.4

DENTAL SCHOOLS' FTE ENROLLMENT--FALL, 1973

	NUMBER OF SCHOOLS	TOTAL FTE ENROLLMENT	FTE UNDER-GRADUATE	FTE GRADUATE	FTE PER SCHOOL
TOTAL	46	18,410	16,762	1,648	400
Size of School					
Large	15	8,724	7,893	831	582
Medium	18	6,935	6,448	487	385
Small	13	2,751	2,421	330	212
Control					
Public	26	9,795	8,972	823	377
Private	20	8,615	7,790	825	431
Geographic Locale					
Innercity	20	9,570	8,766	804	479
Outercity	20	6,894	6,235	659	345
Suburban	6	1,946	1,761	185	324
Rural	0	0	0	0	0
Curriculum Type					
Classical	42	16,798	15,244	1,554	400
Revised	4	1,612	1,518	94	403
Census Region					
Northeast	11	4,445	3,949	496	404
Northcentral	13	5,955	5,375	580	458
South	17	5,926	5,490	436	349
West	5	2,084	1,948	136	417

3. Adequacy of the Inventory

a. Condition of Space

Just over 82% of the 2.34 million NASF of dental schools' nonclinical facilities were reported to be "satisfactory for program purposes". Of the remaining 18% (419,000 NASF), over 190,000 were perceived as needing replacement (prior to the effects of current construction programs) and 230,000 needed remodeling (see Table 3.I.5).

TABLE 3.I.5

CONDITION OF DENTAL SCHOOLS' NONCLINICAL INSTRUCTION FACILITIES--FALL, 1973

	NUMBER OF SCHOOLS	TOTAL NASF (000)	SATISFACTORY		NEEDS REMODELING		NEEDS REPLACEMENT	
			NASF (000)	%	NASF (000)	%	NASF (000)	%
TOTAL	45	2,339	1,920	82	229	10	190	8
Size of School								
Large	15	975	785	81	84	8	106	11
Medium	18	870	707	81	140	16	23	3
Small	13	494	428	87	5	1	61	12
Control								
Public	26	1,437	1,277	89	104	7	56	4
Private	20	902	643	71	125	14	134	15
Geographic Locale								
Innercity	20	1,159	978	84	104	9	177	7
Outercity	20	931	710	76	108	12	113	12
Suburban	6	249	232	93	17	7	0	0
Rural	0	0	--	--	--	--	--	--
Curriculum Type								
Classical	42	2,114	1,765	83	205	10	144	7
Revised	4	225	155	69	24	11	46	20
Census Region								
Northeast	11	494	354	72	42	8	98	20
Northcentral	13	648	539	83	46	7	63	10
South	17	951	826	87	98	10	27	3
West	5	246	201	82	43	17	2	1

The portion of satisfactory space was found to decrease only slightly with increasing FTE student enrollment, with small and large schools representing the bulk (88%) of the replacement need. When the respondent population was divided according to "locale of school" the portion of space reported as "unsatisfactory" was largest for outercity schools (24%). This space (220,000 NASF) is split almost evenly between "needing remodeling" and "needing replacement".

The publicly controlled schools reported proportionally much more satisfactory space (89%) than did the private schools (71%). Thus, as apparent from Table 3.I.5, even though 61% of the inventory of non-clinical instruction facilities was controlled by the public sector, the number of NASF needing remodeling or replacement was much greater for the private sector.

The problem of unsatisfactory condition was spread over most room-types that constituted the nonclinical instruction facilities of the private dental schools. On the lower side, classrooms, class laboratories, and faculty office space ranged between 67% and 70% satisfactory. The room-type exhibiting the highest satisfactory percentages were animal facilities (83%) and the five reported auditoria (100%).

The percentage of space reported as unsatisfactory by the five schools in the Western census region (72%) was quite high. In particular, library facilities were considered to be only "30% satisfactory". The survey instrument did not pursue the specifics underlying respondents' perceptions of the condition of space.

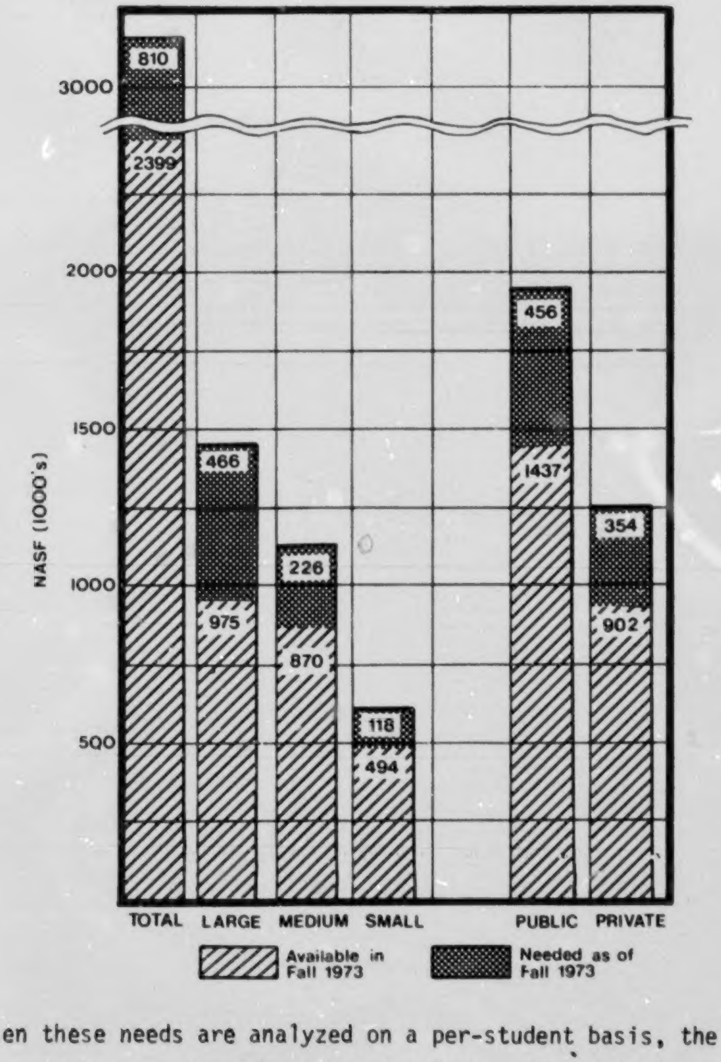
b. Need for Nonclinical Facilities as of Fall, 1973

While some portion of the facilities need which existed as of the survey date will be reduced by the ongoing construction programs of respondents, the schools' perceptions of the then-existing needs for space were based upon experience rather than projection. As a result, these perceptions give us our most accurate insights into the sizes of facilities configurations felt to be necessary for satisfactorily accommodating the then existing enrollment levels.

In all, 33 dental schools perceived a need for 810,000 additional NASF of nonclinical instruction facilities, 459,000 NASF engendered by overcrowding. This need, nearly 35% when expressed as a portion of the current inventory, is almost 48% for the large schools' and approximately 25% for medium and smaller schools. Furthermore, on the same basis (percent of current inventory), schools of the northeastern census region envisioned a need for 51% additional space, with the remaining three regions varying between 16 and 39%.

FIGURE 3.I.C

DENTAL SCHOOLS' PERCEIVED FACILITIES NEEDS AS OF FALL, 1973



When these needs are analyzed on a per-student basis, the desired changes in certain room-types become quite large. Thus, it is desired that animal facilities be doubled (primarily in the large, and publicly controlled schools); that classroom space per student be increased by 40% from 15 to 21 NASF per student, and that auditorium facilities, none of which were allocated to large schools in the Fall of 1973 be brought to 6 NASF per student. Moreover, schools in the public sector perceived a need for doubling their available library space per FTE student (nearly matched by the private schools), while the privately controlled schools seemed to show their most substantial need to be that for auditoria (bringing that room-type from 1 to 9 NASF per student).

Forty of the 46 responding dentistry schools reported various other needs (as constrained by the survey instrument) for satisfactory accommodation of their Fall, 1973 enrollment. Most often mentioned (39 schools) were the needs for additional faculty and support staff (1,670 and 1,475, respectively) with over 2/3 of the faculty required at the large schools. The second most frequently mentioned need was that for additional operating funds (exclusive of the faculty salaries to support the needed faculty), totalling nearly $30 million per year. Associated with the need for new faculty, 31 schools reported an aggregate need for .19 million NASF of faculty office space. Nearly 1,300 examining and treatment rooms were perceived as needed by 21 of the 40 respondents to the relevant question (see Table 3.I.6).

TABLE 3.I.6

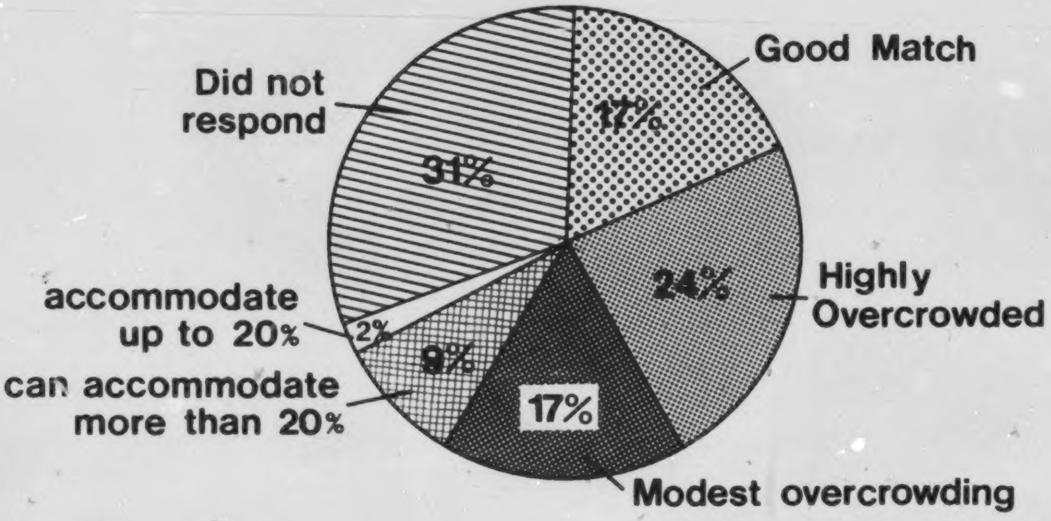
DENTAL SCHOOLS' NON-FACILITIES NEEDS TO ACCOMMODATE FALL, 1973 ENROLLMENT

	NUMBER OF SCHOOLS ANSWERING QUESTION	FTE FACULTY	FTE SUPPORT STAFF	OPERATING FUNDS ($000)	FUNDS FOR EQUIPMENT ($000)
Number of Schools With a Need	40	39	39	24	27
TOTAL	40	1,667	1,475	29,308	16,270
Size of School					
Large	14	1,123	762	15,522	8,546
Medium	17	374	482	10,401	7,614
Small	9	170	231	3,385	110
Control					
Public	23	758	940	19,843	6,514
Private	17	909	535	9,465	9,756
Geographic Locale					
Innercity	15	1,162	798	17,553	11,604
Outercity	19	334	517	9,181	4,324
Suburban	6	171	160	2,574	342

c. Library Facilities Adequacy

Eight of the 32 respondents who answered the question concerning "enrollment versus library capacity" indicated that a "good match" existed between available library space (including joint-use facilities) and enrollment as of the survey date. Five indicated either that "up to 20% additional enrollment could be accommodated", or that "over 20% additional enrollment would not adversely impact the use of the library".

FIGURE 3.I.D
DENTAL SCHOOLS' PERCEIVED MATCH BETWEEN LIBRARY CAPACITY
AND ENROLLMENT--FALL, 1973



On the other hand, nineteen of the respondents indicated either "modestly" or "highly" overcrowded conditions in library space, with about equal frequency. The latter figures, on a percentage basis, held relatively constant as a function of size and control of school. It might be noted in passing that of the 3 schools of the Western census region responding to the question, all of them reported either modest or heavy overcrowding. This fact ties well with Western dental schools' indication that only 30% of their library facilities were satisfactory from the point of view of physical condition and configuration vis a vis programmatic needs.

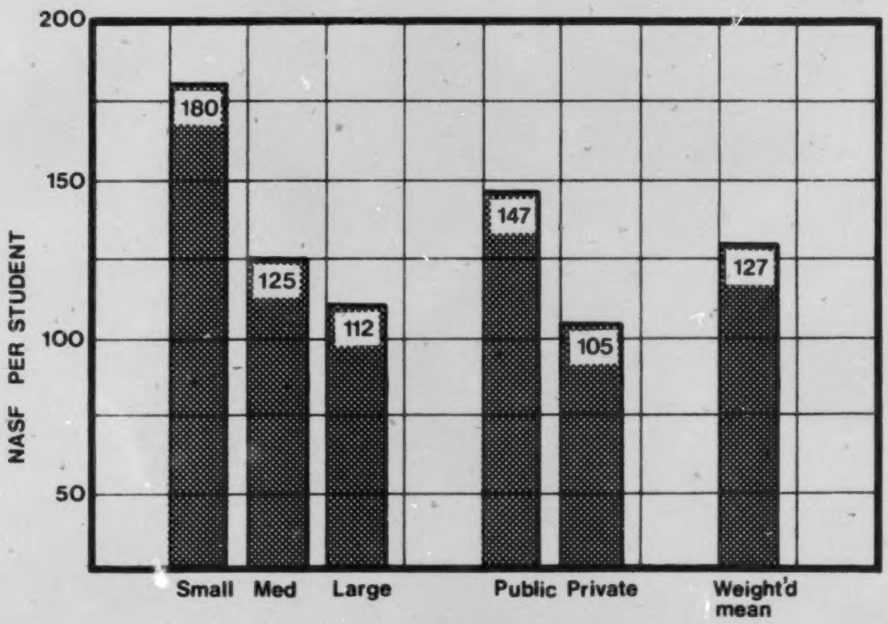
4. Resource Usage

a. Space and Stations Available per Student

Respondents indicated an average NASF per student figure of 127, ranging as high as 691. Just over 15% of the allocated nonclinical instruction facilities were used predominantly for graduate-level instruction. Space per student tended to vary with size and control of school, as is apparent from Figure 3.I.E.

FIGURE 3.I.E

EFFECT OF SIZE AND CONTROL ON NASF PER STUDENT



The relationships noted in Figure 3.I.E remained reasonably constant for each of the eight room types under consideration. One major exception was that of library space, as reflected by a larger figure for private schools (11 NASF per student) than for public schools (4 NASF per student). This reversal may be assumed to be due to the more probable access of public schools to joint-use space, of which library space is a typical example. The lesser access of private schools to such space would imply the need for these schools to control an entire library, since they would more likely be "stand-alone" institutions.

When the respondents were grouped according to "locale" and curriculum type, the NASF per student figures tended to hold constant on a room-type basis. Table 3.I.5 details the NASF per student figures reported by the 46 respondents.

TABLE 3.I.7

NASF PER STUDENT OF ALLOCATED, NONCLINICAL INSTRUCTION FACILITIES, FALL, 1973

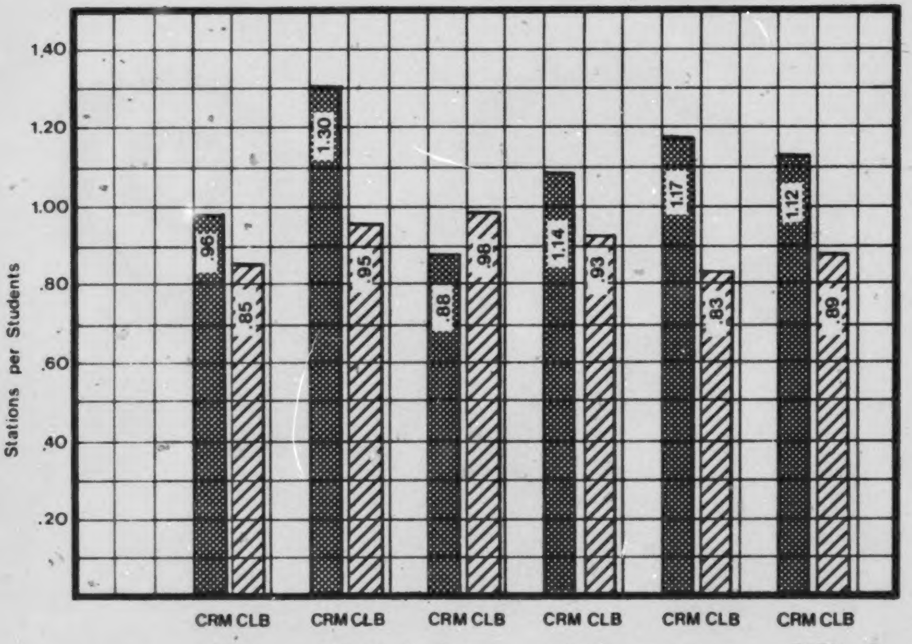
	TOTAL	CLASSROOMS	CLASS LABORATORIES	RESEARCH SPACE	LIBRARY SPACE	AUDITORIA	FACULTY OFFICES	ADMINISTRATIVE OFFICES	ANIMAL FACILITIES
TOTAL/AVERAGE	127	15	36	26	7	1	24	14	3
Size of School									
Large	112	15	30	25	5	0	18	14	4
Medium	125	17	38	20	11	1	25	11	3
Small	180	13	48	41	8	3	42	20	4
Control									
Public	147	15	42	32	4	2	31	17	4
Private	105	16	29	19	11	1	16	10	3
Geographic Locale									
Innercity	121	15	35	25	4	0	24	16	3
Outercity	135	15	38	27	13	2	25	11	4
Suburban	128	16	35	28	5	3	24	13	3
Curriculum Type									
Classical	126	16	35	25	8	1	24	13	4
Revised	140	13	42	35	2	0	27	18	2

Classroom stations per student averaged 1.12, with a high of 2.03 and a low of .27. Four schools reported having no classrooms under their day-to-day control, relying entirely on joint-use space for classroom instruction. Classroom stations per student figures tended to decrease as schools decreased in size, while in line with a previous comment regarding the lesser availability of "joint-use" space within the private sector, private schools reported a much higher "allocated" stations per student average (1.30) than schools of the public sector (.96).

The same relationship is not shown for class laboratories, for which only a 10% difference exists between the public and private sectors' ratios of stations per student.

FIGURE 3.I.F

CONTRAST IN PATTERNS OF STATIONS PER STUDENT IN CLASSROOMS AND CLASS LABORATORIES



Dental schools controlled fewer classroom stations than were available to them on a joint-use basis (16,900 versus 18,600). As seen in Table 3.I.8, as a percentage of the schools' "allocated" classroom stations, the number of jointly-used stations increased dramatically as school size decreased. The value for small schools is so large that it is tempting to conclude that, as some function of their nature, small schools tend toward joint-usage of classrooms. We do not so conclude, since small, public schools of dentistry are very often paired with schools of medicine and thus have greater relative access to joint-use classroom facilities. This point is well-supported by the data, with 11.7 thousand joint-use versus 6.9 thousand controlled stations being available to schools of the public and private sectors, respectively (133% versus 85%). Moreover, there were 30 campuses on which "parent institutions" offered joint-use space to paired schools of medicine and dentistry, and 22 of the 30 are publicly controlled.

TABLE 3.I.8

JOINT-USE AUGMENTATION OF DENTAL SCHOOLS' CONTROLLED CLASSROOM AND LABORATORY STUDENT STATIONS

	CLASSROOMS					CLASS LABORATORIES		
	JOINT-USE STATIONS (1)	(1) AS % OF ALLOCATED STATIONS (2)	JOINTLY USED ROOMS (3)	(3) AS % OF ALLOCATED ROOMS (4)	JOINT USE STATIONS (5)	(5) AS % OF ALLOCATED STATIONS (6)	JOINTLY USED ROOMS (7)	(7) AS % OF ALLOCATED ROOMS (8)
TOTAL	18,566	110	234	59	9,954	62	236	49
Size of School								
Large	3,951	52	54	36	2,847	42	76	43
Medium	7,470	108	65	34	4,368	68	95	42
Small	7,145	312	115	205	2,739	101	65	76
Control								
Public	11,691	133	135	63	6,498	78	144	45
Private	6,875	85	99	54	3,456	45	92	55
Geographic Locale								
Innercity	7,384	87	100	52	3,589	44	69	27
Outercity	8,307	124	98	62	4,395	73	113	61
Suburban	2,875	170	36	72	1,970	107	54	126

Joint-use class laboratory stations, less general purpose in nature than classroom stations, nevertheless represented a significant proportion of respondents' available facilities. Overall, joint-use class laboratory stations represented a 62% addition to respondents' "allocated" class laboratory stations, with schools of the public sector exhibiting a 78% addition, and those of the private sector reporting 45%.

b. Usage of Classrooms

Recalling from PART 1 that comparative analysis was our purpose in assessing room and student station utilization, and by way of introduction to this section, we note that a simplified utilization formula is given by:

$$\frac{\text{resource hours used}}{\text{resource hours available}} \text{ X } 100 = \%\ \text{resource utilization,}$$

whether that resource is student stations or rooms. Appendix G should be consulted for the details of the method, in particular, the impact of using a 2,080 hour year rather than an "academic" year for comparability purposes.

Thirty-two percent of respondents' classroom space was primarily devoted to instruction in the basic biological sciences, with 54% of the space devoted to instruction in the clinical sciences, and the remaining 15% of mixed usage. With minor deviations, these proportions held regardless of the grouping of respondents.

As may be seen in summary Table 3.I.9, the average classroom was used 505 hours out of the academic year. Publicly controlled schools averaged 491 hours per classroom (per year), while schools in the private sector averaged 522 hours per year. Classroom usage tended to increase as locale of school varied from suburban to innercity locales, a pattern of increase which held for each room-size category defined by the instrument. Also, except for the case of the "1 - 16 station" size, the revised curriculum schools tended to utilize their classrooms more than did those schools categorized as offering "classical" curricula.

TABLE 3.I.9

DENTAL SCHOOLS' CLASSROOM USAGE--FALL, 1973

	NUMBER OF SCHOOLS	NUMBER OF ROOMS	TOTAL HOURS USAGE PER YEAR (000)	MEAN HOURS USAGE PER ROOM PER YEAR	PERCENT ROOM UTILIZATION
TOTAL	42	400	202	505	26
Size of School					
Large	12	152	71	467	28
Medium	18	192	104	542	23
Small	12	56	27	485	25
Control					
Public	23	216	106	491	25
Private	19	184	96	522	28
Geographic Locale					
Innercity	18	192	105	545	27
Outercity	18	158	78	497	26
Suburban	6	50	19	377	21
Rural	0	--	--	--	--
Curriculum Type					
Classical	39	377	187	496	26
Revised	3	23	15	656	32

Room utilization, the portion of the available "room hours" that are used during a 2,080 hour year, averaged 26% for the classrooms of the 42 respondent schools of dentistry for whom data were complete. Public and private schools were slightly below and above the mean, respectively, while schools considered to have a "revised" curriculum reported slightly greater (32%) utilization than the "classical" schools (26%). As noted from the analysis of average hours per room per year, the percentage of room utilization decreases as we move from innercity through suburban locales.

Classroom student station utilization figures averaged 18%, ranging from 5 to 103%. Schools in the public sector averaged 21% station utilization; those in the private sector, 16%. Table 3.I.10 shows the elements of the utilization formula. The impact of the joint-use correction factors may be inferred from this table, as may the relative magnitude, both "plus and minus" of the factors.

TABLE 3.I.10
DENTAL SCHOOLS' CLASSROOM STUDENT STATION UTILIZATION--FALL, 1973

	STATION HOURS USED BY RESPONDENTS' STUDENTS (000) (1)	CONTROLLED STATION HOURS AVAILABLE (000) (2)	STATION HOURS "BORROWED" BY RESPONDENT (000) (3)	CONTROLLED STATION HOURS "BORROWED" BY OTHER SCHOOLS (000) (4)	PERCENT STUDENT STATION UTILIZATION $\frac{(1)+(4)}{(2)+(3)}$ X 100
TOTAL	6,948	39,420	3,927	992	18
Size of School					
Large	3,070	18,726	1,312	320	17
Medium	2,825	16,503	1,122	583	19
Small	1,053	4,191	1,493	89	20
Control					
Public	3,785	17,516	2,399	434	21
Private	3,163	21,904	1,528	558	16
Geographic Locale					
Innercity	3,638	21,549	2,164	426	17
Outercity	2,544	13,647	911	336	20
Suburban	766	4,224	852	230	20
Rural	0	--	--	--	--
Curriculum Type					
Classical	6,306	36,117	3,393	992	18
Revised	642	3,303	534	0	17

As may be seen in columns 3 and 4 of the above table, dentistry students represent a greater drain on the classroom resources of their "parent institutions" than is represented by other schools' usage of dental school classrooms.

c. Class Laboratory Utilization

The utilization of class laboratories tended to parallel, at a higher level, those patterns found in classroom utilization. Each class laboratory was utilized an average of 693 hours per year, over 37% more than the average classroom. This heavy usage was primarily a function of the "large" schools' 956 hour per year mean usage -- and the distribution of large schools between the public and private sectors was such that the means for the two sectors were extremely close (see Table 3.I.11).

TABLE 3.I.11

DENTAL SCHOOLS' CLASS LABORATORY UTILIZATION--FALL, 1973

	NUMBER OF ROOMS	TOTAL HOURS OF USAGE PER YEAR (000)	MEAN HOURS OF USAGE PER ROOM PER YEAR	PERCENT ROOM UTILIZATION	PERCENT STUDENT STATION UTILIZATION
TOTAL	486	337	693	35	21
Size of School					
Large	177	169	956	46	23
Medium	224	123	551	27	19
Small	85	44	517	31	17
Control					
Public	318	219	689	35	23
Private	168	118	701	35	18
Geographic Locale					
Innercity	258	199	771	40	22
Outercity	185	122	657	31	18
Suburban	43	16	377	21	24
Rural	--	--	--	--	--
Curriculum Type					
Classical	435	305	700	34	21
Revised	51	32	630	41	16

Class laboratory "room utilization" averaged 35% for the dental schools' respondent population as a group, with the public and private sectors each exhibiting this mean value. As is obvious from the table, strong trends in class laboratory usage also existed as a function of locale (as in the case of classrooms).

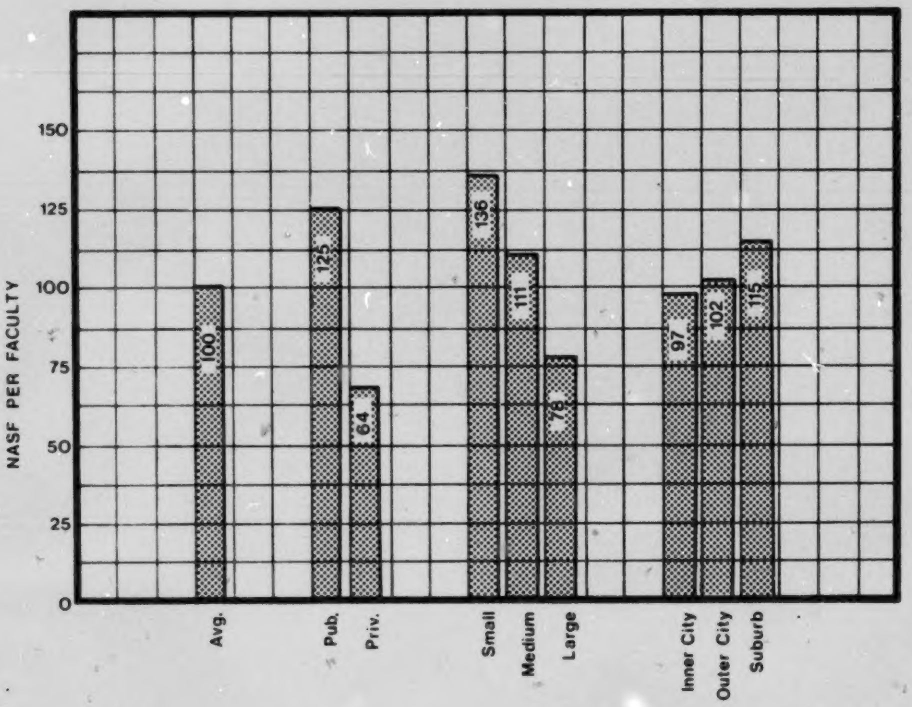
While the mean class laboratory student station utilization was higher than that for classrooms, it is interesting to note that instead of increasing with decreasing school size (as did classroom utilization), it decreases with decreasing school size. Otherwise, class laboratory station utilization tends to follow the same pattern as classroom station utilization.

d. Faculty Offices

When the total NASF of faculty office space (438,000 NASF) is compared with the full-time equivalent teaching faculty (4,363), the NASF per faculty member is approximately 100. On this same measure, schools in the public sector reported nearly twice the NASF per faculty member than did schools in the private sector. As is seen Figure 3.I.G, the relationship exhibited between "size" of school and NASF per faculty member was quite clear, as was the pattern of increasing space per faculty member as the locale of school changed from innercity through outercity and suburban settings.

FIGURE 3.I.G

FACULTY OFFICE SPACE PER FACULTY MEMBER, DENTAL SCHOOLS--FALL, 1973



e. Animal Facilities

The 41 schools of dentistry responding to the relevant questions indicated that nearly 20% of their animal facilities were used for instructional purposes and the remainder (80%) were used almost exclusively for research. The largest departure from these figures was exhibited by the smaller schools which indicated that over 30% were for instructional purposes.

C. ONGOING CONSTRUCTION AND REMODELING, AND THE POST CONSTRUCTION INVENTORY

1. Extent, Purposes, and Cost

Twenty of the schools of dentistry responding to the survey indicated that, as of the survey date, they were involved in a construction or remodeling program. The reported programs ranged in size up to $27 million for new construction, and up to $5 million for a single remodeling program. Representing the construction of some 1.2 million GSF (669,000 NASF) of new facilities to be controlled by the respondents, 72% of the $97 million of construction and remodeling cost was reported by the public sector (see Table 3.I.12). Notably, over half of this construction is attributable to "on-site patient care" (205,000 NASF) and "other" facilities (140,000 NASF).

TABLE 3.I.12

OVERVIEW OF DENTAL SCHOOLS' ONGOING CONSTRUCTION AND REMODELING--FALL, 1973

	NUMBER OF SCHOOLS RESPONDING TO SURVEY	NUMBER OF SCHOOLS WITH CONSTRUCTION	GSF OF CONSTRUCTION (000)	CONSTRUCTION COST ($000)*	NUMBER OF SCHOOLS WITH REMODELING	NASF OF REMODELING (000)	REMODELING COST* ($000)
TOTAL	46	10	1,199	86,091	10	100	10,866
Size of School							
Large	15	3	721	53,398	5	60	5,842
Medium	18	4	61	5,600	3	37	4,682
Small	13	3	417	27,093	2	3	342
Control							
Public	26	7	818	61,203	5	83	8,297
Private	20	3	381	24,888	5	17	2,569
Geographic Locale							
Innercity	20	6	606	48,688	6	63	4,354
Outercity	20	4	593	37,403	4	37	6,512
Suburban	6	0	--	--	0	--	--
Rural	0	0	--	--	0	--	--
Census Region							
Northeast	11	3	382	30,290	3	36	5,489
Northcentral	13	3	726	49,286	3	15	1,150
South	17	3	75	5,115	3	48	3,727
West	5	1	16	1,400	1	1	500

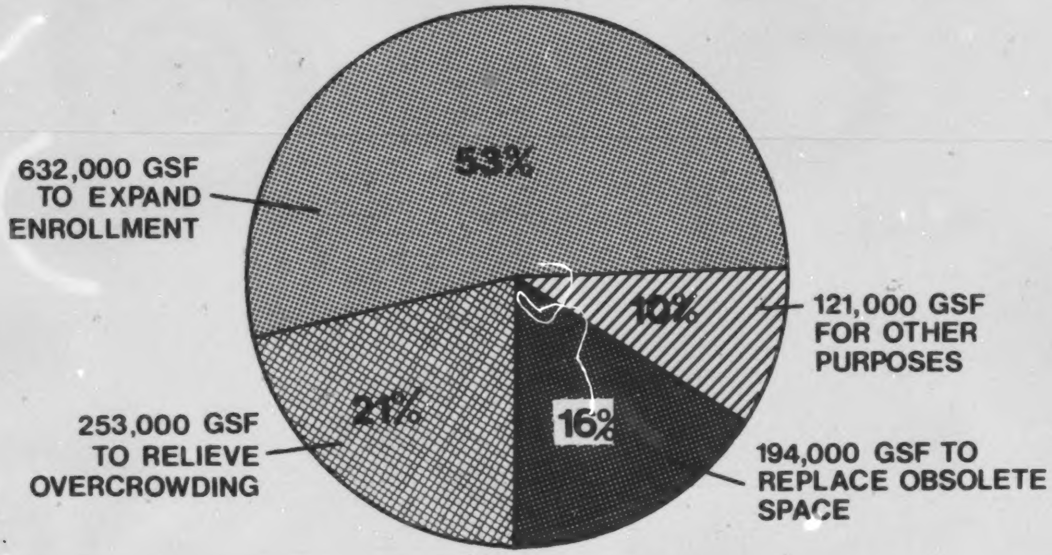
* As reported for all construction and remodeling, including "on-site patient care" and "other" which are excluded from the NASF figures.

The 12 innercity and 8 outercity schools reported somewhat similar levels of construction and remodeling. The costs of construction in outercity locales were about 77% of the costs of the corresponding new construction at innercity schools. The net result was a widely differing average cost per GSF of new construction between innercity and outercity locales: the former represented a cost of $80 per GSF; while the latter averaged $63.

As Figure 3.I.H indicates, schools of dentistry reported that more than half (53%) of the new space was being built for the purpose of enrollment expansion, a figure equalled in both the public and private sectors. Facilities obsolescence was not mentioned as one of the purposes of new construction at small schools: thus, when the latter were removed from the computations, the large and medium sized schools each showed one-fourth of their new construction to be for this purpose. The aggregate result, here, is that with only 194,000 GSF of the new construction reported to be for overcrowding relief, the 459,000 NASF overcrowding need perceived as of the survey date will be little alleviated by ongoing construction programs.

FIGURE 3.I.H

PURPOSES OF ONGOING CONSTRUCTION AT DENTISTRY SCHOOLS, FALL, 1973



2. Sources of Funds for Ongoing Construction and Remodeling Programs

Of the 97 million dollars reported by respondents as "committed" to ongoing construction and remodeling efforts, nearly 36% was contributed by state and local sources, (all of it to schools in the public sector) with HPEA construction grants accounting for another 32% of the total. The remaining funds, reported primarily by the private sector, were divided among private ("own funds"), institute borrowing, and foundations/philanthropies. Based on a grouping of schools by control, 46% of the ongoing construction and remodeling costs in the private sector were obtained from HPEA sources, while 27% was the corresponding figure for the publicly controlled respondents.

The attempt to reconcile the HPEA construction grant records of the Bureau of Health Manpower (BHM) with the survey responses (see page 30 in PART 2) was reasonably successful with the major exception of schools of dentistry. As will be recalled, $9 million in grants to dental schools, recorded by BHM, did not explicitly appear in the survey data. It should also be noted that of the $97 million construction and remodeling cost reported by dental schools, $17.5 million was unapportioned as to source. The $9 million difference (23%) between the survey data and that of the Bureau of Health Manpower is most probably a major constituent of the unapportioned sum; and thus the above figures should be treated cautiously.

3. The Effects of Ongoing Construction and Remodeling

In terms of NASF, the net effect of ongoing construction and remodeling would be to increase the dental schools' inventory by 400,000 NASF, bringing their "allocated" nonclinical instruction facilities to 2.7 million (see Table 3.I.13). Since just under 700,000 NASF of new facilities were reported as being under construction, and since the amount of space rented or leased decreased by only 5,000 NASF in total, it is apparent that those new facilities constructed for replacement purposes are replacing owned rather than rented space.

TABLE 3.I.13

THE EFFECTS OF ONGOING CONSTRUCTION AND REMODELING ON DENTAL SCHOOLS' ALLOCATED NONCLINICAL FACILITIES

	NUMBER OF SCHOOLS	FALL, 1973 INVENTORY (000 NASF)	POST-CONSTRUCTION INVENTORY (000 NASF)	CHANGE IN NASF (000)	PERCENT CHANGE
TOTAL	46	2,339	2,685	346	15
Size of School					
Large	15	975	1,193	218	22
Medium	18	870	900	30	3
Small	13	494	592	98	20
Control					
Public	26	1,437	1,712	275	19
Private	20	902	973	71	8
Geographic Locale					
Innercity	20	1,159	1,325	166	14
Outercity	20	931	1,111	180	19
Suburban	6	249	249	0	0
Rural	0	--	--	--	--
Census Region					
Northeast	11	494	674	180	36
Northcentral	13	648	781	133	21
South	17	951	978	27	3
West	5	246	252	6	2

By multiplying the percentage of the GSF (under construction) reported by respondents to be for replacement purposes, by the NASF of new construction, we obtain an estimated NASF of new construction for replacement purposes. We must compare this figure with that reported as of the survey date to see how much of and where the needs for replacement are being fulfilled. In all, 190,000 NASF were indicated by respondents as "needing replacement": using the computational approach described above, we obtain an estimated NASF (being replaced) of 52 thousand NASF, 27% of the need. This percentage varies widely for the various categorizations of schools used previously in this analysis. Keeping in mind both the subjective nature of responses to questions concerning "purposes of new construction" and the GSF to NASF conversion being made, we find that none of the private sector's 134,000 NASF need for replacement purposes was being mitigated by ongoing construction programs, nor was the

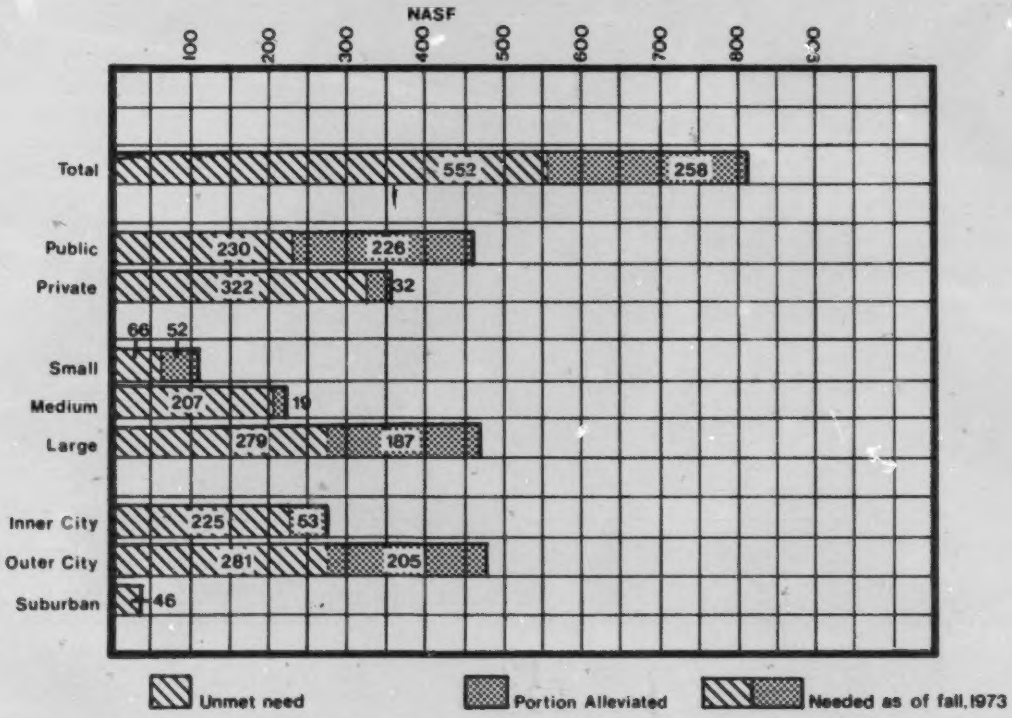
61,000 NASF need of the small schools being fulfilled. In fact, in the case of the small schools (5 reported a replacement need) the remaining need represents the largest amount for any of the school sizes.

On the basis of numbers of NASF, the largest increases (50 thousand) were reported for both faculty offices and research and research training space, followed closely by classroom space (48,000) and class laboratories (43,000). (Of the 350,000 NASF increase, respondents failed to report the apportionment of 118,000 NASF.)

Thirty-three of the 46 respondents reported that upon the completion of ongoing construction and remodeling programs, 552,000 NASF were still required for accommodation of the enrollment expected at that time. Based upon the 810,000 NASF pre-construction need, it is apparent that, in the aggregate, 32% (260,000 NASF) of the pre-construction need was alleviated by ongoing construction and remodeling efforts as of the survey date (see Figure 3.I.I).

FIGURE 3.I.I

THE EFFECT OF ONGOING CONSTRUCTION ON PERCEIVED PRE-CONSTRUCTION NEEDS



On the basis of room-type, the 552,000 NASF need depicted in the above figure is distributed as shown in Table 3.I.14, below.

TABLE 3.I.14

DENTAL SCHOOLS' POST-CONSTRUCTION NASF NEEDED--BY ROOM-TYPE

	NASF NEEDED POST-CONSTRUCTION (1)	% OF NEED (2)	NASF AVAILABLE AT SCHOOLS REQUIRING SPACE (3)	NEEDED AS % OF AVAILABLE (4)
TOTAL	552	100	1,200	46
Classrooms	74	13	131	56
Class Laboratories	75	14	187	40
Research & Research Training	112	20	110	102
Library	75	14	39	192
Auditoria	64	12	0	--
Faculty Offices	83	15	202	41
Administrative Areas	32	6	62	52
Animal Facilities	38	7	16	238

Overall, ongoing construction programs will add, on a per student basis, 10 NASF (an increase of 8%). We find that this added square footage is apportioned in such a manner that it does not increase any given room-type by any more than 1 NASF per student. Although the additions, on a NASF per student basis, do not appear significant, the enrollment figures used in the denominator of the computation were based on the respondents' projected enrollment following completion of ongoing construction and remodeling efforts. It is thus of interest to consider the fluctuation in the enrollment figures themselves.

4. The Post Construction Student Population

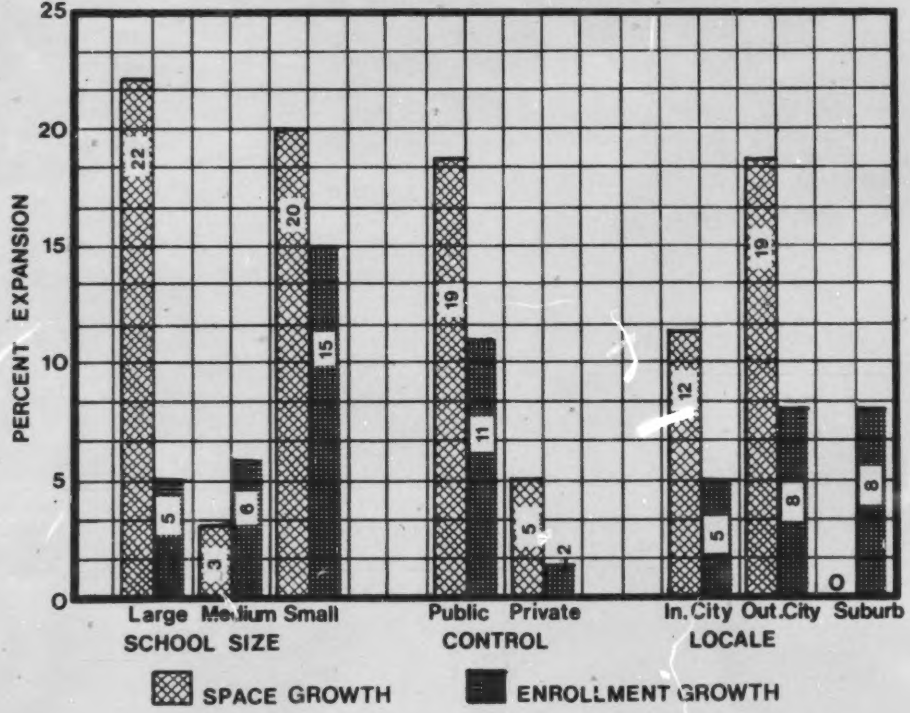
Given the inherent assumptions underlying our definition of "post-construction period", we find a seven percent increase (18.4 to 19.6 thousand) between the FTE enrollment as of the survey date and the FTE enrollment "following the completion of ongoing construction and remodeling". The most vigorous growth rate was exhibited by the "small" schools (25%), with the large and medium schools reporting aggregate growth rates of 5% and 6% respectively.

Schools of the public sector were expected to be responsible for most of the enrollment increase (nearly 1,100 of the 1,225 students), while schools of the Northeast census region, already accounting for more students than any other region, expected to show the largest percentage increase (11%), bringing their FTE count to 6,638.

It is found that, despite the fact that each categorization of respondents reported some degree of overcrowding prior to new construction, there were a number of cases in which the percentage of projected enrollment growth exceeded the percentage increase in the size of the facilities inventory (see Figure 3.I.J). On the other hand, the typical situation was one in which the facilities expansion percentage exceeded the enrollment increase. From this standpoint, the most notable cases were those of the large schools, in which a 22% projected facilities expansion outstripped the 5% enrollment growth factor; and schools of the Northeast, which showed an aggregate 36% increase in facilities compared with the anticipated 4% enrollment increase.

FIGURE 3.I.J

COMPARISON BETWEEN GROWTH IN FACILITIES AND GROWTH IN ENROLLMENT, PRE- TO POST-CONSTRUCTION



Overall, the NASF per student figures for the various groupings changed in the manner shown in Table 3.I.15--in which it is apparent that few major changes in the balance between enrollment and facilities will have occurred upon completion of ongoing construction and remodeling.

TABLE 3.I.15

FALL, 1973 VERSUS POST-CONSTRUCTION NASF PER STUDENT

	NASF PER STUDENT FALL, 1973	NASF PER STUDENT POST CONSTRUCTION	DIFFERENCE	PERCENT CHANGE
TOTAL	127	137	10	8
Size of School				
Large	112	131	19	17
Medium	125	123	-2	-2
Small	180	187	7	4
Control				
Public	147	157	10	7
Private	105	111	6	6
Geographic Locale				
Innercity	121	132	11	9
Outercity	135	149	14	10
Suburban	128	118	-10	-8
Rural	0	--	--	--
Census Region				
Northeast	111	145	34	31
Northcentral	109	118	9	8
South	160	155	-5	-3
West	118	124	6	5

D. THE 1983 LOOK AHEAD

Twenty-two of the 46 dental school respondents indicated plans for the construction of 1.4 million NASF of facilities during the period between the completion of their ongoing construction and remodeling programs and the fall of 1983. These programs ranged in size from 4,000 to 235,000 NASF. About 57% of this new construction, some 810,000 NASF, would be built at nine schools in the private sector; with the remaining 590,000 reported by 13 schools in the public sector. Innercity schools indicated that they would build 830,000 NASF (of the 1.4 million total) as shown in Table 3.I.16.

TABLE 3.I.16

DENTAL SCHOOLS' PLANNED CONSTRUCTION AND REMODELING THROUGH 1983

	REMODELING		CONSTRUCTION	
	NUMBER OF SCHOOLS	NASF* (000)	NUMBER OF SCHOOLS	NASF* (000)
TOTAL	16	526	22	1,400
Size of School				
Large	6	248	10	792
Medium	8	190	7	334
Small	2	88	5	274
Control				
Public	8	255	13	588
Private	8	271	9	812
Geographic Locale				
Innercity	8	318	10	829
Outercity	5	130	9	476
Suburban	3	78	3	95

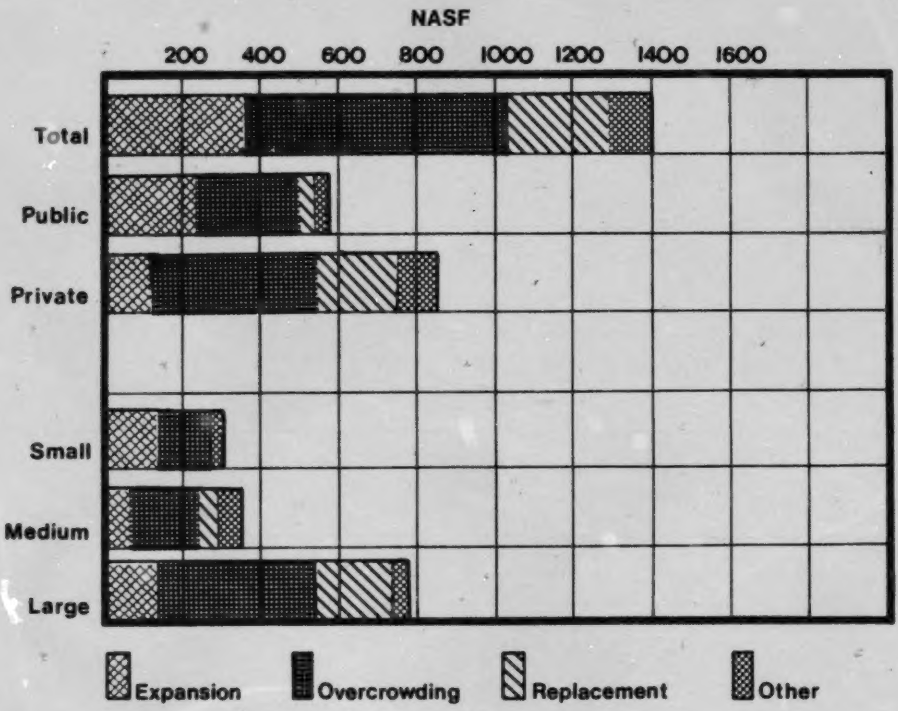
* Includes on-site patient-care and "other".

Although planned remodeling was reported to a much lesser extent (530,000 NASF), we note that as a portion of projected 1983 activity, the public sector reported a greater ratio of remodeling to construction than did the private schools: 83% versus 43%. Since construction, as of the survey date, was so much more prevalent in the public sector than the private, it is logical that, all other things equal, the future remodeling ratios should be as reported.

The reported purposes of the construction planned by respondents between the end of ongoing construction efforts and the fall of 1983 tended to indicate that overcrowding represented the perceived priority need for most dental schools in the coming decade, a result anticipated from previous discussion of ongoing construction.

FIGURE 3.I.K

DENTAL SCHOOLS' PURPOSES OF PLANNED CONSTRUCTION THROUGH 1983



Forty-six percent of the planned construction was for overcrowding relief (equal in both public and private schools), with 28%, 18%, and 8% representing the estimates for enrollment expansion, replacement of obsolete space, and other purposes, respectively.

Construction planned for overcrowding relief was reported as nearly equivalent for both the large and medium-sized schools. Small schools, however, reported expansion of enrollment (65%) as the major purpose of construction. While the need for facilities for enrollment expansion was the highest priority purpose for ongoing construction in both the public (53%) and private (53%) sectors as of the survey date, added planned construction for enrollment expansion through 1983 was much more prevalent for schools in the public sector.

To summarize the changes in dental schools' nonclinical facilities over the 10-year period 1973-1983, Table 3.I.17 presents, for the size, control, and locale categories, the 1973, "post-construction", and 1983 inventory and NASF per student figures derived from respondents' projections. Since the 1983 facilities data requested did not require a distribution of space by room-type, and since only student head-counts were requested for 1983, the 1973 and post-construction figures have been made comparable. All NASF figures in the tables include "on-site patient care" and "other" facilities; and the NASF per student figures use undergraduate and graduate headcounts rather than Full-Time Equivalents (FTE's).

TABLE 3.I.17

SUMMARY OF DENTAL SCHOOLS' ALLOCATED FACILITIES--1973-1983

	1973			POST-CONSTRUCTION			1983		
	NASF (000)	HEADCOUNT	NASF PER STUDENT	NASF (000)	HEADCOUNT	NASF PER STUDENT	NASF (000)	HEADCOUNT	NASF PER STUDENT
TOTAL	4,203	18,477	227	4,831	19,701	245	6,375	21,652	294
Size of School									
Large	1,768	8,768	202	2,108	9,170	230	2,832	9,853	287
Medium	1,541	6,955	222	1,629	7,361	221	2,103	7,884	267
Small	894	2,754	325	1,094	3,170	345	1,440	3,915	368
Control									
Public	2,644	9,849	268	3,086	10,935	282	3,836	12,443	308
Private	1,559	8,628	181	1,745	8,766	199	2,539	9,209	276
Geographic Locale									
Innercity	2,065	9,619	215	2,417	10,123	239	3,413	11,198	305
Outercity	1,697	6,912	246	1,973	7,476	264	2,347	8,154	288
Suburban	441	1,946	227	441	2,102	210	615	2,300	267

E. THE FALL, 1973 INVENTORY OF CLINICAL INSTRUCTION RESOURCES

1. Description

a. Clinical Facilities

Most of the clinical affiliates used by dental schools offered both outpatient and inpatient care facilities: only 5 of these 60 facilities did not offer outpatient care; while only 16 did not offer inpatient care.

The smaller portion of the clinical training resource, in terms of both facilities and patient contact, was that associated with inpatients. Clinical affiliates of dental schools offered nearly 4,500 inpatient beds (with an average patient load of under 2,200), most of them to large schools of the private sector. Inpatient contact was not reported as occuring in "on-site patient care" facilities, which are defined as "those areas (designed for patient contact) which are integrated into the non-clinical instruction facilities of a health profession school".

With respect to ambulatory care, the mainstay of dental students' clinical experience, clinical affiliates reported 350 examining rooms (with over 800 patient stations): for the purposes of respondents' teaching, 476,000 patient visits per year (assuming the 1972 activity level) were made to these ambulatory care facilities, 72% of them in innercity locales. On average, each patient station was thus used for teaching purposes just under 600 times per year.

Forty-four "on-site patient care" clinics were reported by the 46 responding dental schools. Over 2,800 examining and treatment rooms (9,500 patient stations) were reported, as well as a traffic of 2.57 million outpatient visits per year. The typical patient station was used for an average of 271 visits per year for training purposes, 229 in the publicly controlled schools, and 332 for schools in the private sector.

Table 3.I.18 summarizes the relationship between FTE enrollment at dental schools and the ambulatory patient teaching resources represented by "on-site" clinics and clinical affiliates.

TABLE 3.I.18

DENTAL SCHOOLS' FTE ENROLLMENT VERSUS CLINICAL TEACHING RESOURCES

	FTE ENROLLMENT	OUTPATIENT VISITS (MILLIONS)	AMBULATORY PATIENT STATIONS	OUTPATIENT VISITS PER STUDENT	AMBULATORY PATIENT STATIONS PER STUDENT
TOTAL	18,410	3.05	10,305	166	.56
Size of School					
Large	8,724	1.34	4,978	154	.57
Medium	6,935	1.16	3,790	166	.55
Small	2,751	.55	1,537	199	.56
Control					
Public	9,795	1.45	8,915	148	.91
Private	8,615	1.60	4,390	186	.51
Geographic Locale					
Innercity	9,570	1.58	5,643	165	.59
Outercity	6,894	1.10	3,668	159	.53
Suburban	1,946	.37	994	189	.51

Since "on-site patient care" (OPC) facilities are such a significant contribution to the clinical resources of dental schools, it is of interest to consider their status in some depth. We find that respondents reported 1.21 million NASF of OPC facilities (66 NASF per student), 29% of the overall physical plant considered allocated to (controlled by) dental schools. Eighty-two percent of this space was considered satisfactory, although schools in the Northeast and Western Regions were well below this average (see Table 3.I.19).

TABLE 3.I.19

DENTAL SCHOOLS' INVENTORY OF ON-SITE PATIENT CARE FACILITIES--FALL, 1973

	NUMBER OF FACILITIES	NASF (000)	NASF PER STUDENT	NASF SATISFACTORY (000)	PERCENT SATISFACTORY
TOTAL	44	1,209	66	990	82
Size of School					
Large	14	488	56	379	78
Medium	17	484	70	388	80
Small	13	237	86	223	94
Control					
Public	26	776	79	669	86
Private	18	433	50	321	74
Geographic Locale					
Innercity	20	611	64	484	79
Outercity	19	470	68	380	81
Suburban	5	128	66	126	98
Rural	0	--			
Census Region					
Northeast	8	187	42	127	68
Northcentral	13	420	71	371	88
South	16	486	82	422	87
West	5	116	56	70	60

Respondents indicated a need for 414,000 NASF of OPC facilities, 59% of which (244,000 NASF) would be for relief of overcrowding. The remaining need (170,000 NASF) would be for replacement of part of the 219,000 NASF considered unsatisfactory for program purposes as of fall, 1973 (see Table 3.I.20).

TABLE 3.I.20

DENTAL SCHOOLS' PERCEIVED NEEDS FOR ON-SITE PATIENT CARE FACILITIES - FALL, 1973

	SCHOOLS WITH A NEED FOR OPC FACILITIES	OPC FACILITIES NEEDED (000 NASF)	OPC NEED AS % OF TOTAL NEED	OPC NASF NEEDED PER STUDENT	% OF OPC FACILITIES NEED TO RELIEVE OVERCROWDING
TOTAL	24	414	29	22	59
Size of School					
Large	8	161	24	18	37
Medium	9	208	39	30	72
Small	7	45	24	16	78
Control					
Public	11	263	32	27	51
Private	13	151	26	18	74
Geographic Locale					
Innercity	10	163	33	17	55
Outercity	12	232	28	34	62
Suburban	2	19	25	10	58
Rural	0	0	--	--	
Census Region					
Northeast	7	138	31	31	89
Northcentral	6	114	26	19	30
South	9	146	31	25	59
West	2	16	25	8	50

b. Nonclinical Facilities in Clinical Areas

The 200,000 NASF of nonclinical instruction facilities used by dental schools in owned and major affiliated hospitals and clinics represented less than a 10% adjunct to the nonclinical instruction facilities "allocated" to these schools. Of the 60 hospitals reported, 32 made such facilities available for academic purposes (see Table 3.I.21).

TABLE 3.I.21

DENTAL SCHOOLS' NONCLINICAL FACILITIES IN CLINICAL AREAS

	NASF (000)	PERCENT OF TOTAL NASF
TOTAL	200*	100*
Classrooms	14	7
Class Laboratories	6	3
Research & Research Training	10	5
Library	36	18
Auditoria	88	44
Faculty Offices	8	4
Administrative Areas	6	3
Animal Facilities	10	5

* Sum of individual figures is not total since a number of clinics failed to report the distribution of the available NASF for non-patient contact training.

The "distribution profile" of non-clinical facilities in clinical areas indicates that, for the relevant hospital subsample as a whole, auditoria represent the largest element relative to other room-types, accounting for 44% of the NASF reported. Library facilities are the next most visible use to which the non-clinical instruction facilities in clinical settings are put, representing 18% of the distribution profile. Following the classroom percentage (7%), the remaining room-types vary between 3% and 5% of the total.

As will be recalled, 4 schools of dentistry fell into the "revised" curriculum category chosen by the researchers. It is interesting to note that the 26 and 6 hospitals associated with the "classical" and "revised" curriculum-type schools, respectively, have somewhat different space distribution profiles. The greatest distinguishing difference is found with the fact that the "revised" schools have access to approximately four times the classroom, class laboratory, and administrative space (as a percentage of the total NASF available to them in clinical areas) than do those schools whose curricula are considered "classical".

2. Adequacy of Nonclinical Facilities in Clinical Affiliates--Fall, 1973

a. Condition

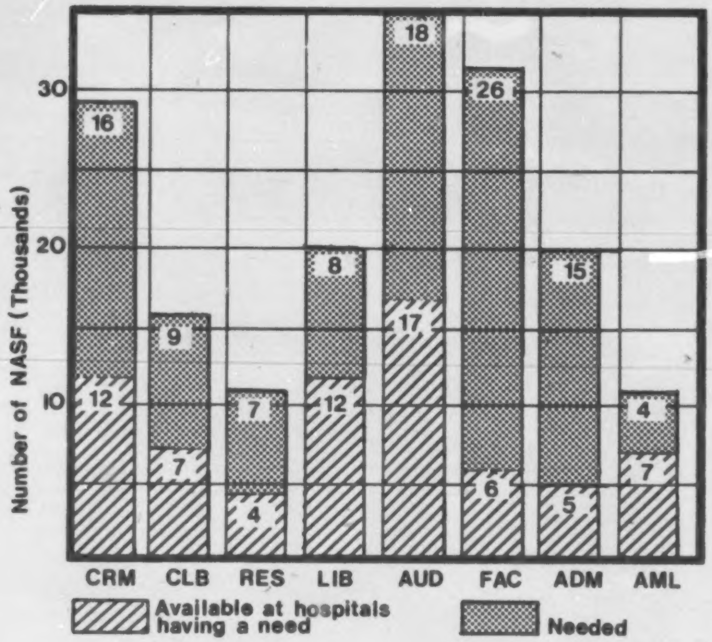
Respondents reported that approximately 80% (160,000 NASF) of the current inventory of non-clinical instruction facilities in clinical settings were "satisfactory for program purposes". Of the remaining 20%, just under half (44%) needed remodeling, while the remainder, some 20,000 NASF, required replacement. Schools in the public and private sectors reported essentially the same "percent satisfactory", but for the remaining space, the private sector indicated that remodeling was the key need (14,000 NASF), while the public sector perceived a replacement requirement of 14,000 NASF.

b. Instructional Facilities Needed in Clinical Settings

Only 21 of the 60 clinics reported a need for additional nonclinical facilities. These institutions represented 35% of dental schools' inventory of nonclinical instruction facilities in clinical areas. Excluding the effects of ongoing construction and remodeling as of the survey date, 107,000 NASF were perceived as needed, with 34% of this figure needed for overcrowding relief. While the NASF needed represents 149% of the NASF currently available, this percentage varies greatly as we analyze each of the room types delineated by the survey instrument. In the aggregate, respondents wished to more than quadruple the available square footage of faculty offices, and treble the available administrative areas. Large expansions were also desired for research and research training space (175%), classrooms (133%), and class laboratories (129%).

FIGURE 3.I.L

COMPARISON OF NASF AVAILABLE WITH NASF NEEDED, NONCLINICAL INSTRUCTION FACILITIES IN CLINICAL AREAS--FALL, 1973



The lowest priority items reported were those of animal facilities and library space, and even here, both were indicated as requiring an additional 60% (approximate) expansion over that NASF already available.

Relative to the size of the overall need, 24% was attributable to the need for faculty offices; 17% was earmarked for auditoria, and 15% would be for the expansion of classroom space.

F. ONGOING CONSTRUCTION AND REMODELING AND THE POST-CONSTRUCTION INVENTORY OF INSTRUCTION FACILITIES IN CLINICAL AREAS

1. Extent

Nine of the 60 hospitals and clinics associated with the 46 respondent schools of dentistry indicated that, as of the survey date, they were involved in 500,000 GSF of new construction and 110,000 NASF of major remodeling. The total cost of this new construction and remodeling, nearly $31 million, was primarily being spent by the public sector (87%). Over 80% of the new construction actually related to only 1 hospital.

TABLE 3.I.22

OVERVIEW OF DENTAL SCHOOLS' ONGOING CONSTRUCTION AND REMODELING OF INSTRUCTIONAL FACILITIES IN CLINICAL SETTINGS--FALL, 1973

	NUMBER OF CLINICS REPORTING	GSF (000) OF NEW CONSTRUCTION	COST ($000) OF NEW CONSTRUCTION	NSF OF REMODELING (000)	REMODELING COST ($000)
TOTAL	9	480	29,356	11	1,366
Size of School					
Large	4	43	2,890	1	7
Medium	4	43	3,600	10	1,359
Small	1	394	22,866	0	0
Control					
Public	6	423	25,226	11	1,366
Private	3	57	4,130	0	0
Geographic Locale					
Innercity	7	80	6,130	11	1,366
Outercity	1	6	360	0	0
Suburban	1	394	22,866	0	0
Rural	0				
Census Region					
Northeast	3	431	25,396	0	0
Northcentral	2	6	360	1	7
South	4	43	3,600	10	1,359
West	0	0	0	0	0

Fifteen on-site patient care facilities were also undergoing construction or major remodeling as of fall, 1973. These programs represented over 30% of the dental schools' construction and remodeling of "allocated" instructional space (see Table 3.I.23).

TABLE 3.I.23

ONGOING CONSTRUCTION AND REMODELING OF DENTAL SCHOOLS' ON-SITE PATIENT CARE FACILITIES--FALL, 1973

	NUMBER OF CONSTRUCTION PROGRAMS FOR OPC FACILITIES	NASF OF OPC FACILITIES BEING BUILT (000)	NUMBER OF REMODELING PROGRAMS FOR OPC FACILITIES	NASF OF OPC FACILITIES BEING REMODELED (000)
TOTAL	7	205	8	60
Size of School				
Large	3	124	1	13
Medium	2	35	5	43
Small	2	46	2	4
Control				
Public	5	137	4	35
Private	2	68	4	25
Geographic Locale				
Innercity	5	103	3	41
Outercity	2	102	5	19
Suburban	0	--	0	--

2. Sources of Funds for Ongoing Construction and Remodeling Programs in Clinical Affiliates

Of the 31 million dollars reported as "fully authorized" for ongoing construction and remodeling efforts, 12% was obtained through borrowing, with state and local funds contributing 54% of the total. Federal sources, including HPEA construction grants, represented the remainder. The state and local funding of construction in the private sector (24% of the total) was a marked increase from the 0% for the "allocated" non-clinical facilities construction: however, it must be recognized that with only $4.1 million being spent by the private sector, the dollars involved here are $1 million all told.

3. The Effects of Ongoing Construction and Remodeling of Instruction Facilities in Clinical Settings

The ongoing construction and remodeling at dental schools' clinical affiliates will result in the addition of 115 teaching beds to the 4,450 teaching bed inventory of these hospitals. In addition, the programs will result in the addition of 302 ambulatory patient stations which represents a 37% increase in the 811 such stations reported to be used by dental schools as of the fall of 1973.

TABLE 3.I.24

CLINICAL FACILITIES RESULTING FROM DENTAL SCHOOLS' ONGOING CONSTRUCTION AND REMODELING--FALL, 1973

	INSTITUTIONS ADDING BEDS	BEDS TO BE ADDED	RESULTING NUMBER OF BEDS	INSTITUTIONS ADDING EXAM ROOM STATIONS	STATIONS TO BE ADDED	RESULTING NUMBER OF STATIONS
TOTAL	4	115	4,570	8	302	1,113
Size of School						
Large	1	90	3,714	4	87	649
Medium	2	19	826	3	65	227
Small	1	6	30	1	150	237
Control						
Public	2	10	173	5	220	495
Private	2	105	4,397	3	82	618
Geographic Locale						
Innercity	3	109	3,759	6	136	774
Outercity	0	--	527	1	16	166
Suburban	1	6	284	1	150	173

With regard to nonclinical instruction facilities, the net effect of ongoing construction and remodeling in dental schools' clinical affiliates will be to add 42,000 NASF (21%) to the inventory that existed as of fall, 1973. On a percentage basis, this increase most impacts the clinics associated with "medium-sized" schools, for whom it represents a 54% addition. Along these same lines, schools in the public sector anticipated adding 40% more space through ongoing construction programs than previously existed: from 83,000

NASF, the post-construction inventory of nonclinical facilities in clinical areas was expected to rise to 116,000 NASF. Schools of the private sector reported that their clinical affiliates would add 9,000 NASF (an 8% increase over the fall, 1973 inventory of 117,000). Table 3.I.25 summarizes the effects of ongoing construction and remodeling programs on both the nonclinical instructional space available at clinical affiliates' sites and the on-site patient care facilities integrated into dental schools "allocated" facilities.

TABLE 3.I.25

EFFECTS OF ONGOING CONSTRUCTION AND REMODELING ON CLINICAL TEACHING RESOURCES

	FALL, 1973 INVENTORY		POST-CONSTRUCTION INVENTORY		PERCENT CHANGE	
	NONCLINICAL FACILITIES IN CLINICAL AREAS (000 NASF)	ON-SITE PATIENT CARE FACILITIES (000 NASF)	NONCLINICAL FACILITIES IN CLINICAL AREAS (000 NASF)	OPC FACILITIES (000 NASF)	NONCLINICAL FACILITIES IN CLINICAL AREAS	OPC FACILITIES
TOTAL	200	1,209	242	1,351	21	12
Size of School						
Large	136	488	146	565	7	16
Medium	59	484	91	520	54	7
Small	5	237	5	266	0	12
Control						
Public	83	776	116	852	40	10
Private	117	433	126	499	8	15
Geographic Locale						
Innercity	131	611	148	695	13	14
Outercity	51	470	76	528	49	12
Suburban	18	128	18	128	0	0

It should also be noted that following the completion of ongoing construction and remodeling efforts, 247,000 NASF of on-site patient care facilities were still needed by 18 of the Nation's dental schools, 60% of them by 8 schools in innercity locales. The distribution and relative magnitudes of this need are displayed in Table 3.I.26.

TABLE 3.I.26

POST-CONSTRUCTION NEED FOR ON-SITE PATIENT CARE FACILITIES

	NUMBER OF SCHOOLS REPORTING A NEED	NASF (000) NEEDED	AMOUNT OF OPC AVAILABLE, "POST-CONSTRUCTION" (000 NASF)	PERCENT INCREASE NEEDED $\frac{\text{(COL (2) X 100}}{\text{COL (3)}}$
TOTAL	18	247	1,351	18
Size of School				
Large	6	82	565	15
Medium	8	146	520	28
Small	4	19	266	7
Control				
Public	7	99	852	12
Private	11	148	499	30
Geographic Locale				
Innercity	8	156	695	22
Outercity	8	72	528	14
Suburban	2	19	128	15

G. THE 1983 LOOK AHEAD FOR CLINICAL FACILITIES

Only 5 of respondents' clinical affiliates indicated a planned construction program for the coming decade. Of the 700,000 NASF to be constructed (including patient care areas), the percentage to be applied to overcrowding relief is nearly twice that for either enrollment expansion or replacement of obsolete space. Most of this construction (88%) will be performed by the schools in the public sector: it will, moreover, be situated almost entirely in inner-city and outercity locales.

H. NEW DENTAL SCHOOLS

1. Current Inventory of Nonclinical Instruction Facilities

The seven new respondent schools of dentistry, serving 136 students, controlled 107,000 NASF as of the survey date, 23,000 NASF of it rented, and the remaining 84,000 NASF owned or leased on a very long-term basis. Eighty-two percent of this space was considered satisfactory for program purposes, while 10% (11,000 NASF) required remodeling and the remainder (8,000 NASF) needed replacement (see Table 3.I.27).

TABLE 3.I.27

NEW DENTAL SCHOOLS' INVENTORY OF NONCLINICAL INSTRUCTION FACILITIES--FALL, 1973

	NUMBER OF SCHOOLS	TOTAL NASF*	NASF OWNED	NASF RENTED	NASF SATISFACTORY	NASF NEEDING REMODELING	NASF NEEDING REPLACEMENT
TOTAL	7	107	84	23	88	11	8
Control							
Public	6	93	70	23	74	11	8
Private	1	14	14	0	14	0	0
Geographic Locale							
Innercity	1	24	24	0	24	0	0
Outercity	6	83	60	23	64	11	8
Census Region							
Northeast	1	14	14	0	14	0	0
Northcentral	1	42	42	0	31	11	0
South	4	43	24	19	39	0	4
West	1	8	4	4	4	0	4

* All square footage figures are in thousands.

2. Ongoing Construction and Remodeling

Five construction programs and three remodeling programs were reported by six of the seven new dental schools. Representing a total expenditure of nearly $58 million, the construction programs, in particular, were wholly conceived for the purpose of enrollment expansion. With HPEA construction grants accounting for 44% of the total expenditure, state and local funds represented 27% of these programs' cost with borrowing accounting for another 23%. Respondents did not report the sources of two-thirds of the remaining $3.5 million.

TABLE 3.I.28

OVERVIEW OF NEW DENTAL SCHOOLS' ONGOING CONSTRUCTION AND REMODELING--FALL, 1973

	NUMBER OF SCHOOLS WITH CONSTRUCTION OR REMODELING	GSF OF NEW CONSTRUCTION (000)	CONSTRUCTION AND REMODELING COST ($000)
TOTAL	6	1,133	57,702
Control			
Public	5	1,094	55,141
Private	1	39	2,561
Geographic Locale			
Innercity	1	187	10,750
Outercity	5	946	46,952

3. Effects of Ongoing Construction and Remodeling at New Dental Schools

Upon completion of ongoing construction and remodeling efforts, the controlled inventory of nonclinical instruction facilities will have been increased to 514,000 NASF, and all of the facilities rented as of fall, 1973 will have been abandoned. The FTE enrollment of graduate and undergraduate dental students will have increased to 1,233, most of this increase occurring at publicly controlled, outercity schools in the Southern Census Region. No post-construction facilities needs were expressed by the respondents, although 3 schools indicated that 51,000 NASF of new construction were planned for completion by 1983, almost entirely for enrollment expansion purposes.

II. SCHOOLS OF MEDICINE

A. INTRODUCTION

Medical schools are very complex organizations with multiple functions. They are concerned not only with medical education, but also with the development of new knowledge through research, and the provision of health care services as a necessary adjunct to clinical teaching. Within the general category of medical education, schools are involved to varying degrees in undergraduate training, postgraduate specialty training, and continuing education. The level of activity in each of these general areas has a major impact on the amount and type of space required by the medical school.

Additional factors that significantly affect space needs at medical schools are (1) the organizational setting of the school, such as free standing or academic health science center; (2) the types of programs emphasized, such as primary care with requirements for outpatient facilities; and (3) the types of inter-organizational arrangements which have been developed, such as affiliation agreements.

Data from the 8 new medical schools that responded to the survey were not included in the sample of schools analyzed in this chapter because a picture of the planned relationship between students and facilities could not be established: facilities were in various stages of development, and the full student body had not been enrolled. Consequently the new school data were not comparable with data from established schools. Similarly, data from 6 two-year schools of medicine have been excluded from the analysis because the full clinical component was missing.

We find that a number of schools are beginning to implement curriculum structures which introduce the student to direct patient contact at earlier points in his educational experience than has historically been the case. With the advent of such curricula, it is hypothesized that the usage of educational facilities will change (if not the physical facilities configuration itself). The nature of the data gathered in the current survey effort lends itself to the testing of this hypothesis. Each school was assigned to one of two curriculum types designated by the researchers as "classical" and "revised". Determination of which schools fell into which category was based upon the proportion of student hours spent by a typical student in classroom or class laboratory space during the first two years of his medical education. The "classical" curriculum type was defined to be one in which the student spent upward of 80 percent of his time in classrooms and class laboratories during the first half of his academic experience (using as a denominator, the total time he spent in classrooms, class laboratories, and clinical areas). The "revised" curriculum was one in which this percentage was below eighty percent, thereby implying heavier integration of the clinical teaching component during earlier periods of the educational process. As of the fall of 1973, fifteen schools of medicine fell into the "revised" curriculum category.

For reasons which have previously been described, the individual schools were also grouped according to the size of their FTE (full-time equivalent) undergraduate and graduate enrollment. While, in the broadest sense, the distribution of the schools among the "large", "medium", and "small" categories was arbitrary, this distribution was performed after viewing a display (see Figure 3.II.A) of all the enrollment figures, and selecting as the enrollment ranges for each size category, the "natural" (graphically speaking) grouping of the schools. The result of this procedure was to define the three respective groups as follows:

Small	0-400 FTE
Medium	401-700 FTE
Large	Above 700 FTE

FIGURE 3.II.A

DISTRIBUTION OF MEDICAL SCHOOL ENROLLMENT, FALL, 1973
(UNDERGRADUATE AND GRADUATE FTE)

```
            |XXX     XXX    |
            |XXX     XXX    |
            |XXX     XXX    |
            |XXX XXX XXX    |
            |XXX XXX XXX XXX|
            |XXX XXX XXX XXX|
            |XXX XXX XXX XXX|
     XXX XXX|XXX XXX XXX XXX|
     XXX XXX|XXX XXX XXX XXX|
     XXX XXX|XXX XXX XXX XXX|XXX
     XXX XXX|XXX XXX XXX XXX|XXX XXX
     XXX XXX|XXX XXX XXX XXX|XXX XXX
 XXX XXX XXX|XXX XXX XXX XXX|XXX XXX     XXX
 XXX XXX XXX|XXX XXX XXX XXX|XXX XXX XXX XXX XXX     XXX             XXX
I---I---I---I---I---I---I---I---I---I---I---I---I---I---I---I---I---I---I
LOW*              *                                               *HIGH
= 154            MEAN                                             = 1,571
```

One Interval = 78.5500 students

In sum, the analytical data presented in this chapter represent a composit of numerous factors and influences, some of which were sorted out by size of school, control, locale, "curriculum type", and so on. However, the full range of parameters necessary for an in-depth analysis was not considered due to time, manpower, and dollar constraints. For this reason, we feel it is inappropriate to in any way apply data from this study as "norms" or to so characterize the observed averages and ranges.

Summary Table 3.II.1 below indicates the medical schools' response rate to this survey, and through a successive series of subtractions from the full universe of medical schools, develops the attribute structure for those schools ultimately used in the analysis to follow.

TABLE 3.II.1

RESPONSE RATE FOR SCHOOLS OF MEDICINE

SCHOOLS OF: MEDICINE	NUMBER OF SCHOOLS IN UNIVERSE	NON-RESPONDENT			RESPONDENTS (NO. 1 - NO.2)	NEW OR 2-YEAR SCHOOLS RESPONDING	ESTABLISHED RESPONDENTS (#3-#4)	NON-SUBSTANTIVE FORMS ESTAB. SCHOOLS	RESPONSES USED IN ANALYSIS (#5-#6)	ANALYZED SCHOOLS AS A % OF ESTABLISHED UNIVERSE (7/(1-2a-4))
		NEW OR 2-YEAR SCHOOLS	ESTABLISHED SCHOOLS	TOTAL (#2a+ #2b)						
	#1	#2a	#2b	#2c	#3	#4	#5	#6	#7	#8
TOTAL	114	3	13	16	98	13	84	4	81	83
Large	18	0	1	1	17	0	17	0	17	94
Medium	54	0	8	8	46	0	46	2	44	81
Small	42	3	4	7	35	13	21	2	20	77
Public	68	2	6	8	60	11	49	2	47	85
Private	46	1	7	8	38	2	35	2	34	79
Innercity									39	
Outercity									32	
Suburban									9	
Rural									1	
Classical									66	
Revised									15	
Northeast	30	1	3	4	26	2	23	1	23	85
Northcentral	30	1	2	3	27	5	22	2	20	83
South	38	1	3	4	34	4	30	1	29	88
West	16	0	5	5	11	2	9	0	9	64

B. INVENTORY OF NONCLINICAL FACILITIES CONTROLLED BY RESPONDENTS, FALL, 1973

1. Description of Facilities

Table 3.II.2 sketches the established medical schools' physical facilities inventory as of the survey date. Recalling the discussion of Section 2.II.A, our analysis deals primarily with item 7, Net Assignable Square Footage of space controlled by (allocated to) respondents, excluding "on-site patient care" and "other" facilities.

TABLE 3.II.2

NONCLINICAL FACILITIES INVENTORY OVERVIEW, SCHOOLS OF MEDICINE, FALL, 1973

1.	Number of Schools	81
2.	Owned GSF*	34.4
3.	Owned NASF*	21.5
4.	Rented/Leased NASF*	1.4
5.	Total NASF* (owned or rented)	22.9
6.	Less "On-Site Patient Care" and "Other"	5.2
7.	Total NASF of Nonclinical Instruction Space	17.7

* In millions.

Only one school reported no allocation of nonclinical facilities, evidently obtaining all such facilities from a "parent institution". The largest reported inventory was just over .5 million NASF, with the mean configuration at .219 million. The bulk of these facilities were owned or leased on a long-term basis (94%). Shorter-term rentals accounted for 6% of the controlled space.

TABLE 3.II.3
MEDICAL SCHOOLS' INVENTORY OF "ALLOCATED" NONCLINICAL FACILITIES

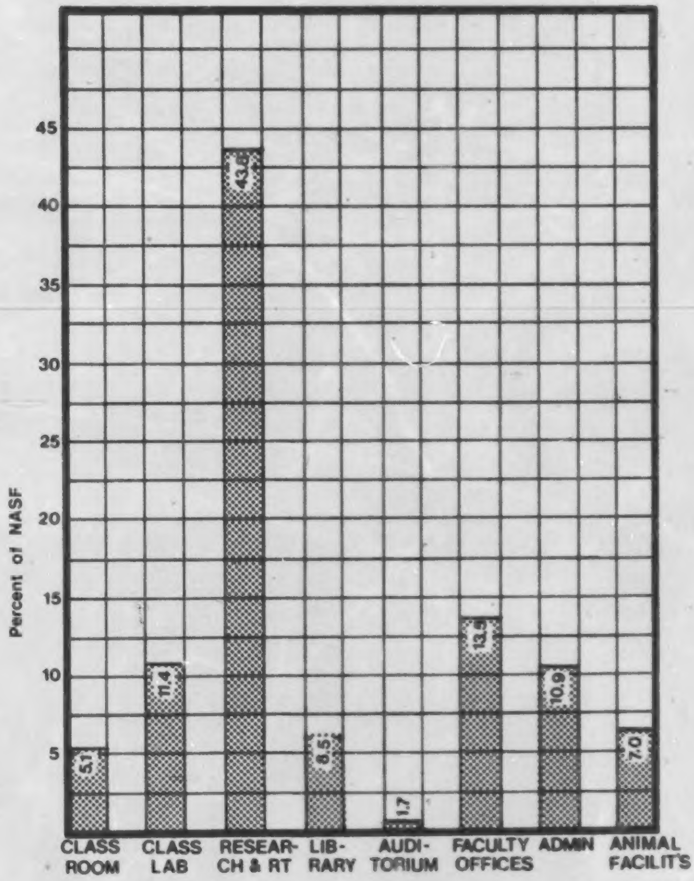
	NUMBER OF SCHOOLS	TOTAL INVENTORY (000 NASF)	OWNED NASF (000)	RENTED NASF (000)	AVERAGE PER SCHOOL (000 NASF)
TOTAL	81	17,705	16,640	1,065	219
Size of School					
Large	17	4,464	4,290	174	263
Medium	44	10,337	9,630	707	235
Small	20	2,904	2,720	184	145
Control					
Public	47	9,555	9,014	541	203
Private	34	8,150	7,626	524	240
Geographic Locale					
Innercity	39	8,020	7,575	445	206
Outercity	32	7,933	7,412	581	248
Suburban	9	1,644	1,599	45	183
Rural	1	108	54	54	108

From Table 3.II.3, we find a tendency toward slightly smaller facilities configurations in the public sector than in the private sector (203 versus 240 thousand NASF per school). This tendency is hypothesized to be due in part to the greater availability of "joint-use" facilities in the often multi-school setting of the publicly controlled university.

The schools' distribution profiles (i.e., the percentage of space classified as "classroom", "class laboratory", etc.) are, with few exceptions, relatively constant for various groupings of medical schools. Figure 3.II.B reflects these percentages for the 80 established respondents who reported allocated space:

FIGURE 3.II.B

NONCLINICAL SPACE DISTRIBUTION PROFILE FOR RESPONDENT MEDICAL SCHOOLS, FALL, 1973



The 7.7 million NASF of research and research training space (43.8% in the above figure) reflects the medical schools' commitment to both research and the education of students in research and related pursuits.

In comparing "classical" and "revised" curriculum-type schools, the "revised" schools reported a lesser portion of space devoted to classrooms and class laboratories than classical schools (11.5 versus 17.7%). It is postulated that the earlier introduction of the clinical teaching component inherent in the "revised" approach helps balance the need for classrooms over the length of the education program, and, thus, reduces the classroom space requirement relative to that for a "classical" curriculum.

NASF per student station and per room as well as stations per room are shown in the following table:

TABLE 3.II.4
MEDICAL SCHOOLS: MEAN NASF PER ROOM AND STUDENT STATION
FALL, 1973

ROOM TYPE	# NASF (000) (1)	# ROOMS (2)	NUMBER STUDENT STATIONS (3)	NASF* PER ROOM (4)	NASF* PER STUDENT STATION (5)	STUDENT STATIONS PER ROOM (6)
Classrooms	896	1,122	55,425	801	16	49
Class Laboratories	2,025	1,941	40,204	1,043	50	21
Res. & Res. Train.	7,762	26,087	15,396	275	267	1
Library	1,158	--	13,043	--	82	--
Auditoria	303	90	22,522	2,867	11	250
Faculty Offices	2,392	14,891	--	158	--	--
Administrative Areas	1,930	--	--	--	--	--
Animal Facilities	1,242	--	--	--	--	--

* Values may appear somewhat small due to computational approach. In column 1, total NASF is displayed, regardless of whether number of rooms and student stations were reported. In computing the ratio of NASF per room or NASF per station, we included in the calculation only those schools reporting the number of rooms or stations. Thus, the numerator actually used in the formula is occasionally smaller than that printed in column 1, but the NASF per room and station figures are a better indication of the actual means.

The individual training sessions characterizing the use of research training space are obvious from Table 3.II.4, with a reported average of almost exactly 1 student station per room.

In analyzing the number of classrooms and laboratories by size and type, the data validated respondents' verbal indications that in the interests of better space utilization, the special purpose class laboratory was becoming less popular than the general purpose and perhaps -- multi-purpose or multi-disciplinary laboratory. We note the changing portion of special-purpose laboratories as we move from the "space-at-a-premium" situation in innercity locales (13% special-purpose laboratories) to the less constrained suburban schools (50%).

TABLE 3.II.5
MEDICAL SCHOOLS' DISTRIBUTION OF CLASSROOMS AND CLASS LABORATORIES
FALL, 1973

	NUMBER OF SCHOOLS	CLASSROOMS		CLASS LABORATORIES		SPECIAL PURPOSE CLASS LABORATORIES	
		TOTAL NUMBER	AVERAGE NUMBER	TOTAL NUMBER	AVERAGE NUMBER	TOTAL NUMBER	AVERAGE NUMBER
TOTAL	81	1,192	15	1,540	19	364	4.5
Size of School							
Large	17	304	18	495	29	45	2.6
Medium	44	689	16	800	18	195	4.4
Small	20	199	10	245	12	124	6.2
Control							
Public	47	588	13	884	19	255	5.4
Private	34	604	18	656	19	109	3.2
Geographic Locale							
Innercity	39	506	13	746	19	109	2.8
Outercity	32	563	18	668	21	144	4.5
Suburban	9	107	12	113	13	111	12.3
Rural	1	16	16	13	13	0	0.0
Curriculum Type							
Classical	66	975	15	1,253	19	280	4.2
Revised	15	217	14	287	19	84	5.6

2. The Student Population Using the Current Inventory

As of the start of Academic Year 1973-74, the 81 medical schools indicated a total FTE enrollment of undergraduate and graduate students (exclusive of interns and residents) of 45,514. The largest school among these respondents reported 10 times the enrollment exhibited by the smallest: 1,571 versus 154 FTE students. There were 50% more students reported by the public sector than by the privately controlled schools, and an even greater percentage of graduate students (80%) reported by the public schools over the private sector. As can be seen in Table 3.II.6, over half of the medical students reported were situated in innercity locales.

TABLE 3.II.6
MEDICAL SCHOOL FTE ENROLLMENT
FALL, 1973

	NUMBER OF SCHOOLS	TOTAL FTE ENROLLMENT	FTE UNDERGRADUATE ENROLLMENT	FTE GRADUATE ENROLLMENT	AVERAGE FTE PER SCHOOL	FTE GRADUATES PER SCHOOL
TOTAL	81	45,514	38,436	7,078	562	87
Size of School						
Large	17	15,206	12,374	2,832	894	167
Medium	44	24,119	20,468	3,651	548	83
Small	20	6,189	5,594	595	309	30
Control						
Public	47	27,478	22,927	4,551	585	97
Private	34	18,036	15,509	2,527	530	74
Geographic Locale						
Innercity	39	24,818	21,319	3,499	636	90
Outercity	32	16,984	13,857	3,127	531	98
Suburban	9	3,317	2,962	355	369	39
Rural	1	395	298	97	395	97
Curriculum Type						
Classical	66	38,220	31,784	6,436	579	98
Revised	15	7,294	6,652	642	486	43

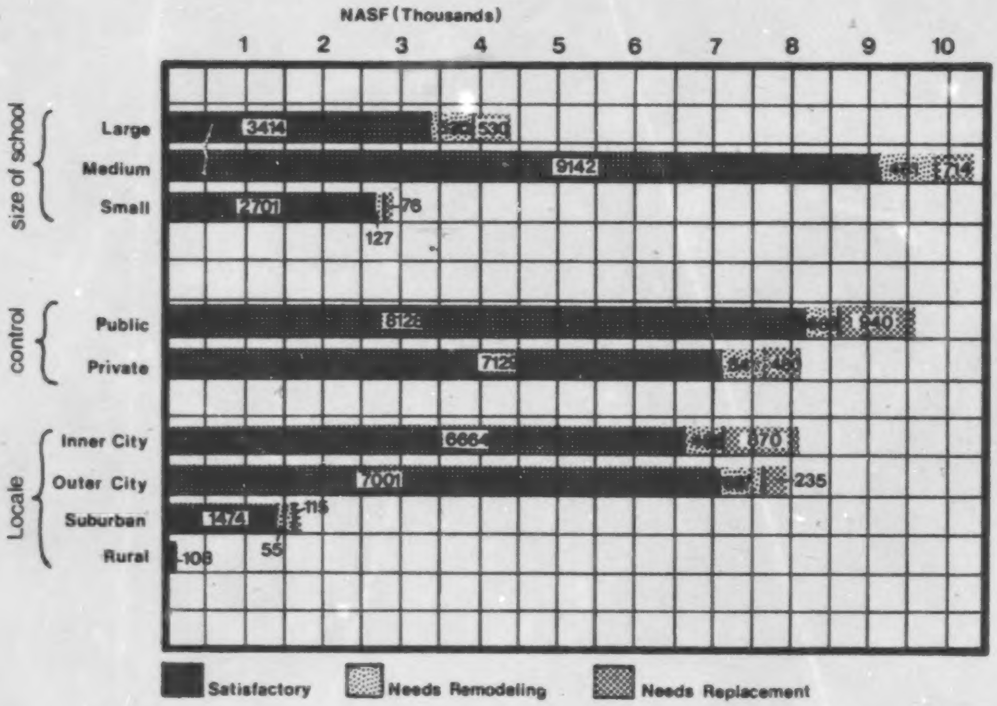
3. Adequacy of the Fall, 1973 Inventory of Nonclinical Instruction Facilities

a. Condition

A total of 15.3 million NASF (86%) of the 17.7 million NASF of non-clinical facilities allocated to medical schools were reported as "satisfactory for program purposes". Of the remaining 2.4 million NASF over 1.3 million were reported to require replacement (prior to the ameliorating effects of existing construction programs) and 1.1 million could be brought to a satisfactory state through remodeling. One respondent indicated that his entire facility required replacement. Figure 3.II.C illustrates the distribution of space among the three conditions defined by the survey instrument.

FIGURE 3.II.C

MEDICAL SCHOOLS' PERCEIVED CONDITION OF SPACE, FALL, 1973



When the respondent population was divided according to "locale of school", the portion of space reported as "unsatisfactory" by inner-city schools was just under 17% decreasing over outer-city, suburban, and rural, respectively, to 12%, 10%, and 0 for the single rurally situated school. As opposed to the overall average of 4.6% for non-inner-city schools, inner-city schools indicated that nearly 11% of their current facilities required replacement. Categorization of schools according to census region indicated that the replacement need was greatest in the Southern census region.

The portion of unsatisfactory space was found to vary strongly with size of FTE student enrollment. The portions of unsatisfactory space for the small, medium, and large schools were 7%, 12%, and 24%, respectively. In attempting to gain insight into the high percentage of unsatisfactory space at the larger schools, analysis of the condition of space by room type shows that 69% of these schools' auditoria were not considered satisfactory, (as opposed to under ten percent unsatisfactory for all other medical school respondents); and over 35% of the larger schools' faculty offices required either remodeling or replacement. While these figures far exceeded the 24% mean, auditoria and faculty offices accounted for only 12% of the larger schools' total inventory. It may thus be concluded that with the above two exceptions, the problem of unsatisfactory condition was prevalent over all room types in the larger schools.

b. Need for Nonclinical Facilities as of Fall, 1973

While a significant portion of the nonclinical facilities needs as of the survey date will be reduced by the ongoing construction and remodeling programs of respondents, it is useful to know respondents' perceptions of the then-existing need for space exclusive of such reduction. Presumably, not only is the baseline facilities data the most accurate, but perceptions of facilities needs as of the survey date were based upon then-current experience rather than upon experience yet to come. As a result, knowledge of the fall, 1973 availabilities of (and needs for) facilities gives us our most accurate insight into the proposed facilities configuration felt by each respondent to be necessary for satisfactorily accommodating his existing enrollment.

In all, 58 medical schools reported a need for 4.65 million additional NASF (see Table 3.II.7). This need, 28% overall when expressed as a percentage of the inventory as of the survey date, was between 33 and 40% higher for the "large" and "medium" sized schools than for the smaller schools. Schools of the Southern census region perceived a need for 46% additional space, with the remaining three regions varying between 17 and 22 percent.

TABLE 3.II.7

MEDICAL SCHOOLS' PERCEIVED NEEDS FOR ADDITIONAL FACILITIES, FALL, 1973

	NUMBER OF SCHOOLS	NUMBER OF SCHOOLS REPORTING A NEED	FALL, 1973 NASF (MILLIONS)			NEEDED % INCREASE IN TOTAL INVENTORY	% INCREASE IN INVENTORY OF ONLY THOSE SCHOOLS WITH A NEED
			TOTAL	SCHOOLS WITH A NEED	NASF NEEDED		
TOTAL	81	58	17.7	13.6	4.95	28%	36%
Size of School							
Large	17	16	4.5	4.3	1.22	27%	28%
Medium	44	32	10.3	7.7	3.12	30%	41%
Small	20	10	2.9	1.7	.61	21%	36%
Control							
Public	47	33	9.6	7.4	2.80	29%	38%
Private	34	25	8.1	6.2	2.15	27%	35%
Geographic Locale							
Innercity	39	29	8.0	6.3	2.42	30%	38%
Outercity	32	23	7.9	6.2	1.93	24%	31%
Suburban	9	5	1.6	1.1	.55	34%	50%
Rural	1	1	.1	.1	.04	36%	40%
Census Region							
Northeast	23	14	5.5	3.4	.95	17%	28%
Northcentral	20	16	4.8	4.2	1.05	22%	25%
South	29	20	5.5	4.3	2.55	46%	59%
West	9	8	2.0	1.7	.40	20%	23%

The "desired" space distribution profile was little different from that which existed as of the survey date, either in total or after grouping of schools as to size, locale, and so on. Minor shifts between classroom and class laboratory percentages were apparent (classroom space increased by schools as to size, locale, and so on. Minor shifts between classroom and class laboratory percentages were apparent (classroom space increased by 11% while class laboratory space decreased about the same), with the most noticeable change being in auditoria (a desired 20% increase was noted here, although auditoria would then still only represent just over 2% of the configuration). Due to the differing absolute amounts of NASF of the various room-types, the 11% and 20% increases are somewhat deceptive without reference to these absolute amounts. Thus, in the case of classrooms, the additional NASF figure desired was 379 thousand, a 42% increase above the current level of 896 thousand NASF. Similarly, for auditoria, it was desired to increase the existing inventory of 303 thousand NASF to 480 thousand, an increment of 58%.

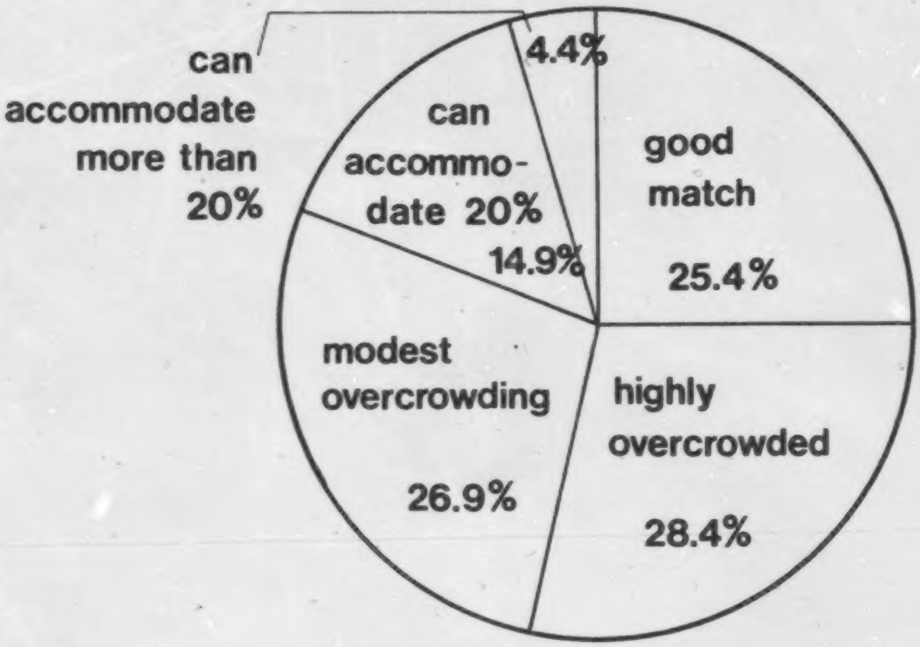
Viewing the 81 medical school respondents as a whole, on a per student basis, 108 NASF were perceived as needed. On the basis of the student population and fall, 1973 inventory at the specific 58 schools reporting a need, the requirement was 139 NASF per student, or a 35% increase over existing levels.

Again on a per-student basis, the desired changes in certain room-types were quite large. For example, it was desired that classroom space per student be increased by 40% from 20 to 28. For small schools, the increase was 56%. Small schools also desired the greatest percentage increase in class laboratory NASF per student (31%) and faculty offices (36%). Viewed on the basis of control, schools in the public sector saw a need for 27% additional research and research training space per FTE student (versus 20% in the private schools); while the privately controlled schools, as a group, indicated that their most substantial need was that for faculty office space (37% versus 27% for the public sector). Finally, those medical schools classified as having "revised" curricula reported a desired "target" of 110 NASF per student (a 43% increase) of administrative offices and areas, while the "classical" schools showed an increase of 7 NASF per student (an 18% increase).

Twenty-five percent of the 67 respondents who answered the relevant question indicated that a "good match" existed between library space and enrollment as of the survey date (see Figure II.D). Nineteen percent indicated either that "up to 20% additional enrollment could be accommodated", or that "over 20% additional enrollment would not adversely impact the use of the library".

On the other hand, 55% of the respondents indicated either "modestly" or "highly" overcrowded conditions in library space, with about equal frequency. The latter figure held relatively constant as a function of size and control of school.

FIGURE 3.II.D
MEDICAL SCHOOLS' PERCEIVED MATCH BETWEEN LIBRARY CAPACITY AND ENROLLMENT, FALL, 1973



In all, 68 schools of medicine reported one or more needs (as constrained by the survey instrument) for satisfactorily accommodating their fall, 1973 enrollment. Most often mentioned (54 schools) was the need for operating funds, $88.8 million exclusive of salaries for additional faculty needed. The second most frequently mentioned need (52 schools) was that for a total of 3,500 additional teaching faculty (and twice that many support staff in 49 of the schools requiring faculty). Commensurate with the increases in teaching and administrative personnel, 48 schools indicated a need for additional space for faculty offices and administrative areas. It is noteworthy that 32 schools reported a need for additional ambulatory care facilities for training purposes -- while 22 schools reported a need for teaching beds.

4. Resource Usage

Fifty-eight of the 81 respondent schools of medicine indicated that they were involved in the training of students for advanced degrees. The total NASF of space controlled by these schools was over 13 million, of which nearly 17% was devoted primarily to this graduate level instruction exclusive of intern and resident training. The largest deviation from the latter percentage was exhibited by the "small" schools, with 31% of their "controlled" space being used for graduate rather than undergraduate instruction. Since the majority of those aspects of the survey instrument dealing with the utilization of resources did not distinguish between utilization by undergraduates and utilization by graduates, the subsequent discussion will not make any such distinction.

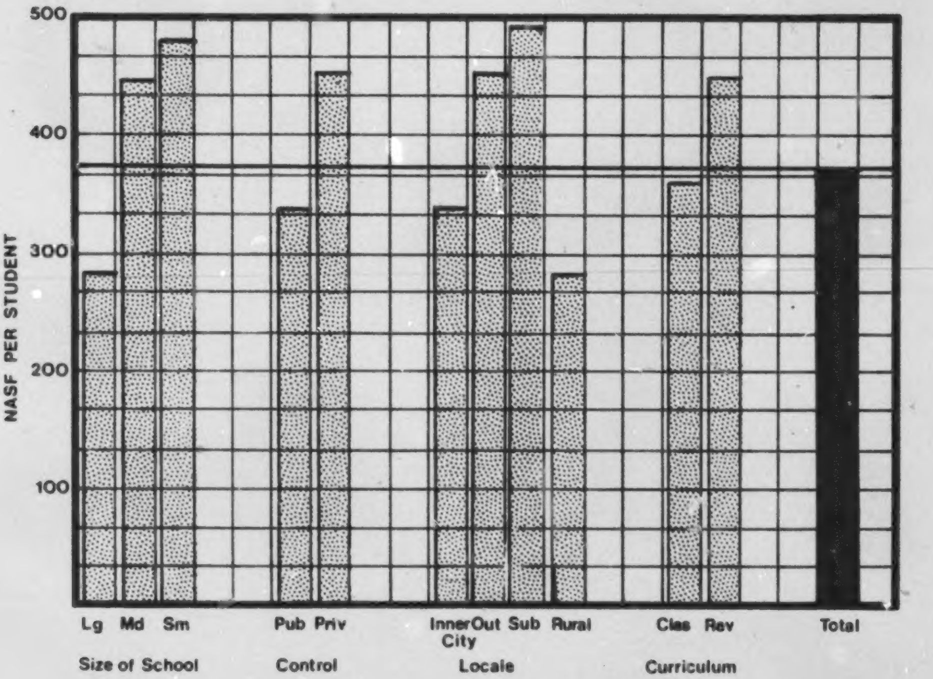
Three indices are used to assess the relative level of space utilization for nonclinical instruction areas: NASF and student stations per student; room utilization percentages; and student station utilization percentages.

a. Space and Stations Available per Student

Exclusive of "on-site patient care" and "other" facilities, the 81 respondents indicated an average of 389 NASF per student (see Figure 3.II.E). (Since just under 17% of the reported space was used predominantly for graduate-level instruction, and since this figure closely parallels the graduate students' representation in the population, the NASF per student refers to the combined number of undergraduate and graduate FTE students.)

FIGURE 3.II.E

NASF OF ALLOCATED SPACE PER STUDENT, FALL, 1973



Space per student increased as school size decreased, with the schools in the "large" category reporting an average of 294 NASF per student; and schools in the "small" category reporting an average of 469 NASF per student. Schools in the private sector reported nearly a third more NASF per student than schools in the public sector, again reflecting lesser access to joint-use facilities which are more prevalent in the public sector.

In both the size and control breakdowns, the relationships noted above held for each of the eight room types under consideration. It should be noted that in the case of each room-type at least one respondent reported zero NASF under his control: and this zero was included in the computation of the per-student averages. As a result, the figures obtained represent the

NASF per student over all schools (whether or not each type of space was available).

As may be seen in Figure 3.II.E, when the respondents are separated according to "locale", the NASF per student figures increase as we move from inner-city to suburban settings. This relationship, too, generally holds for each room-type. (While, contrary to the locale-dependent trend, the NASF per student in the "rural" setting are relatively low, this is not considered to be significant since only one school considered its location "rural".) Finally, the only noteworthy finding concerning NASF per student vis-a-vis the "curriculum type" variable was that the 63 NASF per student reported under "administrative offices and areas" was well above the "all-respondent" average of 42 NASF per student. This fact may indicate that a "revised" curriculum requires more office facilities to administer, although it is a difficult question to address within the scope of the existing data.

Figures 3.II.F and 3.II.G present data on the number of classroom and class laboratory stations per student for the 71 schools reporting day-to-day control of these rooms. It is apparent that the medium size, private, and outercity schools have somewhat larger numbers of classroom stations per student than do the other categories. Class laboratories show a much more balanced distribution of stations per student.

FIGURE 3.II.F

CLASSROOM STATIONS PER STUDENT--FALL, 1973

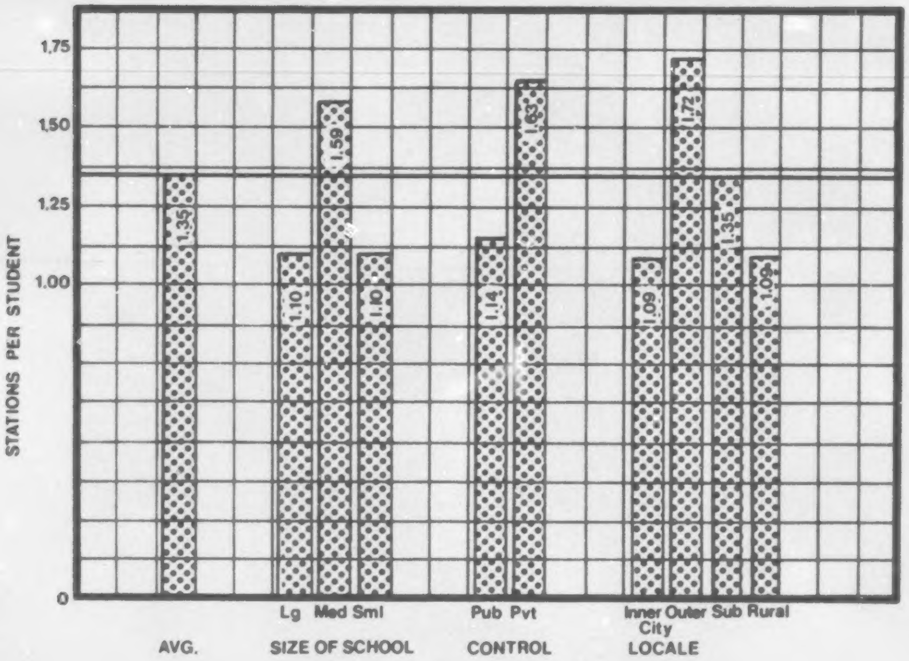
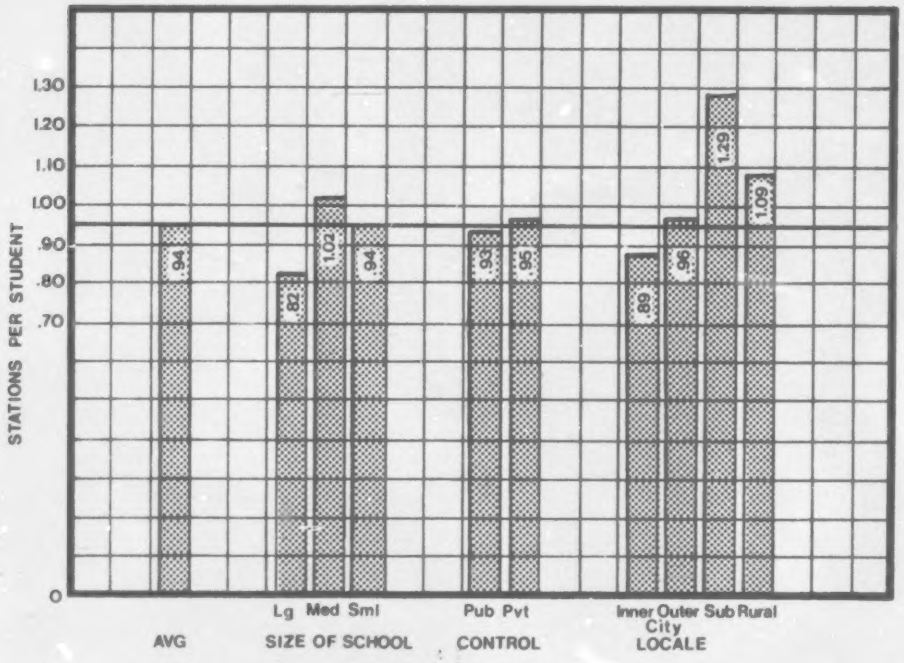


FIGURE 3.II.G

CLASS LABORATORY STATIONS PER STUDENT--FALL, 1973



In addition to the 55,405 classroom student stations whose use was controlled by Respondents, 21,578 stations were available on a joint-use basis through either some central administrative agency or by agreement with other health professions schools "on campus". While, by definition, such stations are not continuously available (and, thus, should be used with care in measuring "stations per student"), they nevertheless represent a significant addition to the medical schools' resources. The "profile" of this student station resource, and its size-relationship with the number of stations controlled by the schools, are shown in Table 3.II.8.

TABLE 3.II.8
JOINT-USE STUDENT STATIONS AVAILABLE TO MEDICAL SCHOOL RESPONDENTS
FALL, 1973

	CLASSROOMS			CLASS LABORATORIES		
	JOINT-USE	CONTROLLED	RATIO	JOINT-USE	CONTROLLED	RATIO
TOTAL	21,578	55,405	.39	6,088	40,204	.15
Size of School						
Large	6,735	15,908	.42	889	11,779	.08
Medium	12,168	33,808	.36	4,115	23,112	.18
Small	2,675	5,689	.47	1,084	5,313	.20
Control						
Public	17,607	27,615	.64	4,838	23,979	.20
Private	3,971	27,790	.14	1,250	16,225	.08
Geographic Locale						
Innercity	9,945	24,495	.41	4,603	19,746	.23
Outercity	9,338	26,226	.36	427	16,238	.03
Suburban	2,295	4,254	.54	1,058	4,060	.26
Rural	0	430	.00	0	160	.00
Curriculum Type						
Classical	16,309	47,352	.34	4,509	34,393	.13
Revised	5,269	8,053	.65	1,579	5,811	.27

As a percentage of the schools' "controlled" classroom stations, the jointly-used stations do not appear to vary significantly with size of school. However, the fact that more publicly controlled schools reside within university settings is reflected in the data, with 17.6 thousand versus 4.0 thousand stations being available to schools of the public and private sectors, respectively (64% versus 14% of "controlled" stations).

Class laboratory stations, much more special-purpose in nature than classroom stations, were reported to be much less significant in the joint-use context. As opposed to the classroom percentage (39%), joint-use class laboratory stations represented only a 15% adjunct to Respondents' controlled class laboratory stations. Again, it is found that the schools of the private sector were much less impacted by such space availabilities than those of the public sector (joint-use laboratory stations represented, respectively 8% and 20% of Respondents' "allocated" stations).

b. Usage of Classrooms

Fifty-nine percent of respondents' classroom space in nonclinical settings was devoted primarily to instruction in the basic biological sciences; with 32% of the space devoted to instruction in the clinical sciences, and the remaining 9% for multiple purposes. With few exceptions, these proportions held regardless of the grouping of respondents.

To assist in the subsequent discussion, Tables 3.II.9 and 3.II.10 list some indicators of classroom usage per academic year, and percent of room and student station utilization. Room and station utilization percentages are based on the following (simplified) formula: for a given resource,

$$\frac{\text{Hours of Usage}}{\text{Hours Available}} \times 100 = \%\ \text{utilization}$$

The caveats of PART 1 indicate that our purpose in assessing room and student station utilization was comparative analysis. Thus, in the formula's denominator, a 2,080 hour year is used in place of the (typically shorter) "academic year", thereby reducing the computed utilization percentages. The latter fact should be kept in mind as the subsequent discussion is reviewed. For a full technical description of the formula, see Appendix G.

TABLE 3.II.9

CLASSROOM UTILIZATION--FALL, 1973

	HOURS OF USAGE PER YEAR (000)	NUMBER OF ROOMS	MEAN HOURS OF USAGE PER YEAR	ROOM HOURS AVAILABLE PER YEAR (000)	% ROOM UTILIZATION*
TOTAL	757	1,057	716	2,361	35
Size of School					
Large	256	255	1,004	560	50
Medium	380	650	585	1,433	30
Small	121	152	796	368	34
Control					
Public	400	499	802	1,105	42
Private	357	558	640	1,256	30
Geographic Locale					
Innercity	339	434	781	988	37
Outercity	348	506	688	1,117	35
Suburban	63	101	624	223	30
Rural	7	16	440	33	21
Curriculum Type					
Classical	581	873	666	1,955	33
Revised	176	184	955	406	44

* The percentages displayed cannot be obtained by simply dividing "hours of usage" by "room hours available" for two reasons. First, the latter two factors are not displayed as "corrected for joint-usage"; and second, they represent figures obtained for the 81 school population while the utilization percentage is based upon only those 68 schools for whom utilization data were complete.

Overall, the average classroom was used 716 hours out of the academic year. Schools in the public sector are as much above the mean on this measure as the schools in the private sector are below it. Grouping of the schools by curriculum type indicates that those schools considered to be offering "revised" curricula showed a 60% greater average usage of classrooms than did "classical" schools; and this relationship holds as we divide the classrooms into the various size categories delineated by the survey instrument (1 - 16 stations, 17 - 32 stations, etc.). Only in the "over 128" station size did schools offering revised curricula show the same usage as did the classical schools. The hypothesis that a revised curriculum contributes to improved balance (and, perhaps, scheduling flexibility) tends to be supported by the latter figures. The same is true in the case of "room utilization" percentages.

Classroom utilization, the percentage of time that classrooms were reported as used during the academic year 1973-1974, averaged 35% for the 68 respondent schools of medicine for whom data were complete. In line with the patterns established by viewing these rooms' average yearly usage, it is found that the percent utilization of classrooms by schools in the public sector is about one-third greater than that of private schools (42% versus 30%). Schools exhibiting a "revised" curriculum reported a 44% average classroom utilization; while the remaining schools reported 33%.

Classroom student station utilization figures exhibited neither the magnitude nor the variability shown by the corresponding room use percentages. The mean percent of student station utilization for the 74 schools of medicine for whom station utilization rates (occupancy rates) have been computed was 17%, ranging from 1% to 95%. Schools in the public sector showed somewhat greater station utilization than those in the private sector (21 versus 14%): while those schools characterized as offering "revised" curricula reported an average of 20% utilization versus 17% for the remainder of the schools.

TABLE 3.II.10

CLASSROOM STUDENT STATION UTILIZATION--FALL, 1973

	NUMBER OF SCHOOLS	NUMBER OF STATIONS	STATION-HOURS AVAILABLE PER YEAR (000)	STATION-HOURS USED PER YEAR (000)	STUDENT STATION UTILIZATION (%)
TOTAL	75	51,647	107,426	14,496	17
Size of School					
Large	15	15,690	32,635	4,702	19
Medium	40	30,248	62,916	7,875	17
Small	20	5,709	11,875	1,920	16
Control					
Public	44	26,664	55,461	8,342	21
Private	31	24,983	51,965	6,154	14
Geographic Locale					
Innercity	35	23,344	48,556	7,607	19
Outercity	30	23,619	49,128	5,599	17
Suburban	9	4,254	8,848	1,162	14
Rural	1	430	894	128	14
Curriculum Type					
Classical	60	43,586	90,659	11,440	17
Revised	15	8,061	16,767	3,056	20

Allowing for the relatively minor fluctuations in the above figures, it is apparent that the computational methods used herein, theoretically based on a scale from 0 to 100 given a 2,080 hour "academic year", yield low average values for station occupancy. We have already noted, in PART 1, one of the major elements which contributes to low student station occupancy rates (the 2,080 hour year). It will also be recalled, however, that the average number of classroom stations per student was over 1.3. This means that if there were no clinical component to a medical school student's training, and if during each day every student in a given school were always seated in a classroom, the occupancy rate would be 1÷1.3 or 77%. If we further assume that approximately 1/2 of a medical school student's academic career is spent in clinical training, then the maximum occupancy rate that could normally be expected would be under 39%. Finally, if we assume that approximately half of the time just described is actually spent in class laboratories, we arrive at an overall average occupancy figure of under 20%: a figure well reflected in the respondents' data.

The respondents' data showed a range of controlled student stations per student from .07 to 3.61. As can be seen from the computational procedure used in arriving at the percentage of station occupancy, a ratio in the vicinity of 2.5-3.6 will greatly reduce a school's utilization percentage. Through discussions with respondents during the follow-up phases of the survey, it is apparent that medical education is moving more toward small group instruction. While the reasons for the station-to-student ratio are outside the scope of this effort, they may be involved with this changing instructional mode.

c. Class Laboratory Utilization

The utilization of class laboratories appears to run very much parallel to the nature and patterns found in classroom utilization as may be seen in Table 3.II.11. Thus, for example, the schools characterized as "revised" showed much larger figures for "mean hours per year" and "room utilization percentage" in class laboratories than did those schools categorized as "classical"; while the room utilization percentages calculated for the schools in innercity and outercity locales were greater than those calculated for the suburban and rural locales.

TABLE 3.II.11
CLASS LABORATORY UTILIZATION, FALL, 1973

	HOURS OF USAGE PER YEAR (000)	NUMBER OF ROOMS	MEAN HOURS OF USAGE PER YEAR	ROOM HOURS AVAILABLE PER YEAR (000)	% ROOM UTILI-ZATION
TOTAL	1,107	1,827	606	3,738	34
Size of School					
Large	481	497	968	1,034	50
Medium	456	976	468	1,968	30
Small	170	354	480	736	23
Control					
Public	619	1,030	601	2,147	36
Private	488	797	612	1,591	32
Geographic Locale					
Innercity	578	823	702	1,716	36
Outercity	422	735	574	1,529	36
Suburban	101	256	396	466	22
Rural	6	13	440	27	21
Curriculum Type					
Classical	828	1,473	562	2,997	33
Revised	279	354	787	741	40

The student station utilization (occupancy) figures for class laboratories also paralleled the equivalent figures for classrooms to some degree (see Table 3.II.12). It should be noted that the design of the instrument allowed us to distinguish "special purpose" class labs (such as gross anatomy). In these laboratories, the average usage per year was 392 hours per room. Comparing this figure with the 699 hours per year average for other class laboratories, it is apparent that any significant representation of special purpose laboratories would contribute to decreased laboratory room use and occupancy rates. Of the 1,904 class laboratories reported by medical school respondents, 364 are "special purpose".

TABLE 3.II.12
CLASS LABORATORY STUDENT STATION UTILIZATION

	NUMBER OF STATIONS	STATION-HOURS AVAILABLE PER YEAR (000)	STATION-HOURS USED PER YEAR (000)	STUDENT STATION UTILIZATION (%)
TOTAL	36,085	75,057	7,961	18
Size of School				
Large	9,405	19,562	2,202	17
Medium	21,367	44,443	4,397	19
Small	5,313	11,051	1,362	13
Control				
Public	20,805	43,274	5,004	22
Private	15,280	31,782	2,957	11
Geographic Locale				
Innercity	16,791	34,925	3,855	14
Outercity	15,074	31,354	3,028	23
Suburban	4,060	8,445	902	11
Rural	160	333	177	53
Curriculum Type				
Classical	30,274	62,970	6,652	18
Revised	5,811	12,087	1,309	14

d. Faculty Offices

When the total NASF of faculty office space is compared with the full-time equivalent teaching faculty, the ratio of NASF to faculty for the eighty schools of medicine reporting FTE faculty was approximately 79 as detailed in Table 3.II.13.

TABLE 3.II.13

NASF OF FACULTY OFFICE SPACE PER FACULTY MEMBER--FALL, 1973

	TOTAL NASF OF OFFICE SPACE	NUMBER OF FTE FACULTY	NASF PER FACULTY MEMBER
TOTAL	2,325	29,378	79
Size of School			
Large	647	6,629	98
Medium	1,338	17,741	75
Small	340	5,008	68
Control			
Public	1,348	13,541	100
Private	977	15,837	62
Geographic Locale			
Innercity	1,039	14,989	69
Outercity	1,096	12,121	90
Suburban	174	2,098	83
Rural	16	170	94
Curriculum Type			
Classical	1,930	23,300	83
Revised	395	6,078	65

It may be hypothesized that some of the differences observed in the ratio are due to relative access to "clinical" faculty who use private office space rather than school-controlled office space.

e. Animal Facilities

In the aggregate, the respondent schools of medicine indicated that 19% of their animal facilities were used for instructional purposes, while 79% were used for research (with 2% for other purposes). Table 3.II.14 summarizes the amount of animal facilities per student as a function of the analysis parameters used herein.

TABLE 3.II.14

DISTRIBUTION OF ANIMAL FACILITIES AMONG MEDICAL SCHOOLS--FALL, 1973

	PERCENT OF ANIMAL FACILITIES FOR INSTRUCTION (1)	PERCENT OF ANIMAL FACILITIES FOR RESEARCH & RESEARCH TRAINING (2)	NASF OF ANIMAL FACILITIES PER STUDENT (3)	NASF PER STUDENT OF ANIMAL FACILITIES FOR INSTRUCTION (4)	NASF PER STUDENT OF ANIMAL FACILITIES FOR RESEARCH (5)
TOTAL	19	79	27	5.13	21.3
Size of School					
Large	17	83	20	3.4	16.6
Medium	19	78	30	5.7	23.4
Small	23	76	35	8.05	26.6
Control					
Public	23	73	24	5.52	17.5
Private	14	85	32	4.48	27.2
Geographic Locale					
Innercity	20	80	20	4.0	16.0
Outercity	17	79	36	6.12	28.4
Suburban	27	71	43	11.6	30.5
Curriculum Type					
Classical	21	76	26	5.46	19.8
Revised	11	87	34	3.74	29.6

When the respectively increasing percentages (for large, medium, and small schools) of animal facilities used for instructional purposes are factored into the corresponding NASF per student figures (see Column 3 in Table 3.II.14), we find that the NASF per student of animal facilities used for instructional purposes was nearly 240% larger for the small schools than for those categorized as "large" (8.05 versus 3.4 NASF per student in Column 4). Similar applications of the "percent for instruction, percent for research" figures reduce the contrast in NASF of animal facilities per student between the public and private sectors. Whereas the public sector exhibited an aggregate of 24 NASF per student and the private sector 32 NASF per student, application of the percentages (23% and 14%, respectively from Column 1) brings the figures for the two sectors more into parallel (5.52 for the public sector, 4.48 for the private sector).

Apparently, regardless of size, a school must have research-type facilities and training programs which will attract faculty. In this environment, and as reflected in the respondents' data, a "small" school will have higher per student ratios for research space and animal facilities.

f. Joint-Utilization of Classrooms and Class Laboratories

Twenty percent of the classrooms, and 21% of the class laboratories controlled by respondents were used, to some degree, by students of other disciplines. Overall, the classroom hours used by these other students represented just over 9% of the amount of time the rooms were used by medical students; while for class laboratories, the portion was over 14%.

Schools of the public sector reported a higher incidence of allocated space being used by other disciplines. Table 3.II.15 shows the result of taking the ratio of non-medical student to medical student usage of classrooms and laboratories.

TABLE 3.II.15

COMPARISON OF PUBLIC AND PRIVATE SCHOOLS' PROPENSITY TO OFFER JOINT-USE FACILITIES

	Classrooms	Class Laboratories
Public	14%	21%
Private	4%	4%

This higher joint-utilization of space in the public schools can probably be (at least partially) attributed to the fact that the public schools were more typically located in health centers where other, similar students were available. We find, for example, thirty cases of medical schools paired with (at least) a dental school, and 22 of the 30 were on publicly controlled campuses.

Medical schools also tended to use facilities not controlled by them -- and it is interesting that the net usage varies so widely between classrooms and laboratories. In particular, when "room hours offered" are compared to "room hours obtained", the net usage is typically positive for classrooms and negative for class laboratories. This means that while medical schools represented a drain on the classrooms of either other schools or centrally administered facilities, the students of other disciplines typically represented an even larger drain upon the class-laboratory resources of the medical schools (see Table 3.II.16). One notable exception to the above is that of small schools, whose net usage is positive in both cases.

TABLE 3.II.16

CONTRAST IN CLASSROOM AND LABORATORY JOINT-USAGE

	CLASSROOMS			CLASS LABORATORIES		
	ROOM HOURS OF NON-ALLOCATED SPACE USED BY MEDICAL STUDENTS (1)	ROOM HOURS OF MEDICAL SCHOOL SPACE USED BY NON-MEDICAL STUDENTS (2)	NET (1)-(2) (3)	ROOM HOURS OF NON-ALLOCATED SPACE USED BY MEDICAL STUDENTS (4)	ROOM HOURS OF MEDICAL SCHOOL SPACE USED BY NON-MEDICAL STUDENTS (5)	NET (4)-(5) (6)
TOTAL	121,549	77,062	44,487	66,536	173,807	-107,271
Size of School						
Large	17,684	21,871	-4,187	8,186	34,383	-26,197
Medium	90,795	50,510	40,285	35,366	135,980	-100,614
Small	13,070	4,681	8,389	22,984	3,444	19,540
Control						
Public	95,583	62,748	32,835	58,540	154,561	-96,021
Private	25,966	14,314	11,652	7,996	19,246	-11,250
Geographic Locale						
Innercity	80,005	25,441	54,564	40,690	37,796	2,894
Outercity	30,814	47,443	-16,629	8,462	134,111	-125,649
Suburban	10,730	4,178	6,552	17,384	1,900	15,484
Rural	0	0	0	0	0	0

g. Audio-visual Facilities

Seventy-nine of the 81 analyzed respondents indicated some level of audio-visual facilities availability. Of these 79, 64 reported the existence of a formal "office of audio-visual services" or equivalent. Table 3.II.17 summarizes, in quantitative terms, the audiovisual facilities reported by various categorizations of schools. It is interesting to note that on a per school basis, the "classical" and "revised" curricula appear to have little, if any, effect upon the average amount of A/V facilities available for use.

TABLE 3.II.17

MEDICAL SCHOOLS' AVAILABLE AUDIO-VISUAL FACILITIES--FALL, 1973

	SCHOOLS REPORTING A/V FACILITIES	SCHOOLS WITH OFFICE OF A/V FACILITIES	NASF* OF SELF-INSTRUCTIONAL LABORATORIES	NASF* OF A/V AND TV PRODUCTION FACILITIES	STUDY CARRELS FOR A/V USE	STUDENTS PER CARREL
TOTAL	79	64	159	256	3,109	15
Size of School						
Large	16	15	59	17	1,238	12
Medium	43	35	63	190	1,120	22
Small	20	14	37	49	751	8
Control						
Public	46	37	112	179	2,227	12
Private	33	27	47	77	882	20
Curriculum Type						
Classical	64	51	124	206	2,553	15
Revised	15	13	35	50	556	13

* In thousands.

C. ONGOING CONSTRUCTION AND REMODELING, AND THE POST CONSTRUCTION INVENTORY

1. Extent, Purposes, and Cost

Of the 81 established schools of medicine responding to the survey, 48 indicated that, as of the survey date, they were involved in a construction or remodeling program. The reported programs ranged in size from a few thousand dollars to $69.7 million (for new construction only); with a high of $6 million for a single remodeling program. The ongoing new construction activity totalled some 8.2 million GSF at a cost of $548 million. $405.4 million or 74% of the total cost was reported to be incurred by the public sector. On the other hand, slightly more than half of the $50.6 million being invested in remodeling (.95 million NASF) was reported by the schools in the private sector. The distribution (among the various groupings of schools used in the analysis) of the cost and amount of construction effort in progress during the fall of 1973 is detailed in Table 3.II.18.

TABLE 3.II.18
ONGOING NEW CONSTRUCTION AND REMODELING

		NEW CONSTRUCTION				
	NUMBER OF SCHOOLS	GSF (000)	COST ($000)	AVERAGE COST PER GSF	NASF BEING REMODELED (000)	REMODELING COST ($000)
TOTAL	48	8,168	548,168	67	945	50,591
Size of School						
Large	10	2,056	133,350	65	263	13,293
Medium	30	4,989	317,992	64	589	31,437
Small	8	1,123	96,826	86	93	5,861
Control						
Public	29	6,599	405,416	61	530	24,327
Private	19	1,569	142,752	91	415	26,264
Geographic Locale						
Innercity	22	4,153	323,466	78	514	30,884
Outercity	22	3,711	204,121	55	419	19,268
Suburban	4	304	20,581	68	12	439
Rural	0	0	0	0	0	0
Curriculum Type						
Classical	40	7,310	493,170	67	803	43,126
Revised	8	858	54,998	64	142	7,465
Census Region						
Northeast	16	2,744	240,357	88	277	17,245
Northcentral	12	1,489	89,849	60	262	15,459
South	16	3,486	198,037	57	384	16,803
West	4	449	19,925	44	22	1,084

In concert with previous discussion indicating that to a great degree the southern census region showed the greatest need for additional facilities, it is interesting to note that it is this same region which exhibited the highest new construction activity level. Forty-eight percent (3.5 million GSF) of the total new construction was reported by the southern schools.

Striking differences arise when the purposes of ongoing construction between the public and private schools are compared. Table 3.II.19 illustrates the emphasis on expanding enrollment by the public schools, as contrasted with the private schools' effort to accommodate current enrollment.

TABLE 3.II.19

PURPOSES OF PUBLIC AND PRIVATE SCHOOLS' ONGOING CONSTRUCTION, FALL, 1973

	EXPAND ENROLLMENT	RELIEVE OVERCROWDING	REPLACE OBSOLETE SPACE	OTHER	TOTAL*
Public	40%	27%	25%	8%	100%
Private	7%	63%	8%	23%	100%

* Totals do not sum to exactly 100% due to round-off error.

In view of the fact that previous discussion has shown that on a per student basis, the private sector exhibited 104 NASF per student (over 25%) more space than did the public sector, it may seem paradoxical to find that the private sector attributed the purposes of its new construction much more toward the relief of overcrowding than did the public sector. This paradox is at least partially resolved, however, when we consider that an estimated 3.1 million NASF of "joint-use" space in the public sector, and .9 million NASF of similar space in the private sector may be aggregated with the "controlled" space of concern in the current discussion. The two resultant sums, 12.8 million NASF in the public sector and 8.9 million NASF in the private sector, when divided by these two sectors' respective student populations (FTE) yield aggregates of 458 and 489 NASF per student, respectively. Now if we add, as an estimate of NASF, an amount equal to 1/2 the GSF being built for overcrowding relief, we obtain 489 (public) versus 522 (private) NASF per student in the aggregate. These two values are close enough, for all practical purposes, to be considered the same. Thus, even though the private schools possessed (in the "allocated" sense) more space per student than schools in the public sector, their current construction was not unreasonably oriented toward overcrowding relief.

Differences in purpose of the ongoing construction programs at medical schools are strongly evidenced upon grouping of the schools into the size categories previously described (see Table 3.II.20).

TABLE 3.II.20
PURPOSES OF ONGOING NEW CONSTRUCTION AS A FUNCTION OF MEDICAL SCHOOL SIZE--FALL, 1973

	EXPAND ENROLLMENT	RELIEVE OVERCROWDING	REPLACE OBSOLETE SPACE	OTHER PURPOSES	TOTAL*
Large	14%	35%	45%	6%	100%
Medium	36%	34%	17%	12%	100%
Small	57%	29%	1%	14%	100%

* Totals do not sum to exactly 100% due to round-off error.

As of the survey date, the nation's "small" medical schools appeared to be preparing for growth in enrollment, while the "large" schools were more involved in construction for coping with current enrollment, a need for which was clearly exhibited in the previous discussion regarding the large schools' condition of space in the fall of 1973.

Also noted in this same previous discussion was the fact that the schools of the Southern census region reported the largest amount of space that "required replacement". In viewing these schools' purposes of ongoing construction, it is apparent that very little of this replacement would have been implemented by ongoing construction programs. Specifically, nearly 36% of the 3.5 million GSF of ongoing construction was for enrollment expansion; while over 47% of it was for overcrowding relief. Under 8% of this construction (272,000 GSF) was reported for replacement of obsolete space. With over 600,000 NASF originally reported as "needing replacement", it appears that the Southern schools were not effectively addressing their stated problems with existing construction programs. (See Table 3.II.21). On the other hand, schools in the North-central region have apparently replaced more space than their fall, 1973 minimum requirement.

TABLE 3.II.21
EFFECT OF NEW CONSTRUCTION ON MEDICAL SCHOOLS' REPLACEMENT NEEDS

	NASF* REPORTED TO NEED REPLACEMENT AS OF FALL, 1973	ESTIMATED NASF* BEING BUILT FOR REPLACEMENT PURPOSES
TOTAL	1,320	887
Census Region		
Northeast	484	509
Northcentral	100	327
South	600	121
West	136	6

* In Thousands.

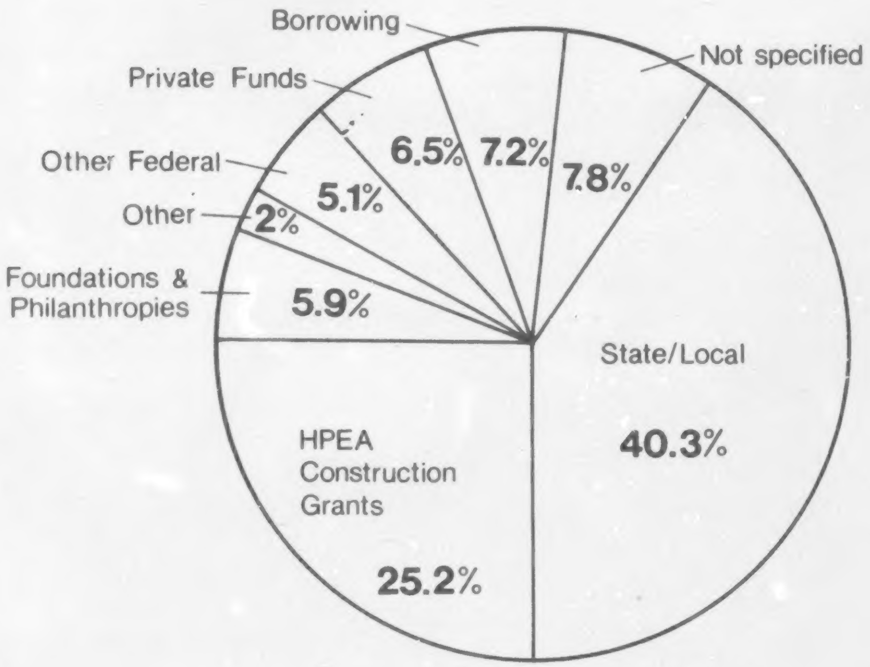
It has been stated that as of the survey date, the "desired" space distribution profile (percentages of each type of space) was little different from that which existed. When the ongoing construction is apportioned by type of space, it is apparent that it will engender little change in the space distribution profile as the space under construction approximates the profile. Thus, in sum, the effect of the construction (taken by itself) would be to increase the amount of space of each type in proportion to its representation in the current inventory, rather than causing changes to the size relationships between one room type and another.

2. Sources of Funds for Ongoing Construction and Remodeling Programs

Of the 624.4 million dollars reported by respondents as "committed" to ongoing construction and remodeling efforts, over 40% was contributed by state and local sources, (primarily to schools in the public sector), with HPEA construction grants accounting for another 25% of the total. With approximately 8% of the funds' sources not specified by the respondents, the remaining 27% of the funds were divided approximately equally among private ("own funds"), institute borrowing, philanthropic organizations, and other federal sources (see Figure 3.II.H).

FIGURE 3.II.H

SOURCES OF FUNDS FOR MEDICAL SCHOOLS' ONGOING CONSTRUCTION AND REMODELING OF NONCLINICAL FACILITIES, FALL, 1973



The primary source of construction funding for schools in the public sector was that of state and local agencies, from which approximately 56% of the $439.4 million was obtained. Only 3% of the private schools' funds were obtained from similar sources. Nearly 33% of the public schools new construction and remodeling funds were obtained through HPEA construction grants, as opposed to just over 7% of the private sector's funding. (Again, the reader should keep in mind the fact that due to uncorrectable reporting errors, the proportions reported herein would not agree with those computed by using data directly from the Bureau of Health Manpower. Thus, for example, BHM figures show their contribution to medical schools' ongoing construction efforts as $238.9 million, $85.7 million to the private schools and $153.2 million to the public sector. The survey data sums to $238.3 million, but the apportionment between private and public is $40.1 million versus $198.2 million. The figures reported herein should thus be treated with extreme caution.)

Schools of the private sector do not seem to have had any single (or dual) primary source of funds. Private funds were used for 15% of the 185 million dollars required for supporting the construction programs, while 19 and 1[illegible]%, respectively, of this total were obtained through private borrowing and philanthropic organizations. Another 17% of the private sector's funding was obtained from federal sources other than those related to Health Professions legislation. In addition, foundations and philanthropies made their greatest impact upon the (4) suburban schools in the West: nearly 36% of these schools' funding was obtained through the latter sources.

Size of school seems to be directly proportional to a school's ability to obtain state and local funding. The pattern here is quite strong: over 74% of the "large" schools' construction funding was from state and local sources; 35% of the "medium" schools', and just over 12% of the "small" schools' funding was from state and local government. Small schools consequently reported a heavier reliance on borrowing than medium or large schools. From the point of view of school size, HPEA construction grants tended to favor the medium and smaller size schools (31 and 22% respectively) while just under 15% of the "large" schools' funding was obtained under the Act.

3. The Effects of Ongoing Construction and Remodeling

In terms of NASF, the net effect of ongoing construction and remodeling would be to increase the medical schools' inventory by 3.23 million NASF, raising their total "controlled" space from 17.7 million to 20.9 million. Table 3.II.22 compares the "pre-construction" and "post-construction" inventories, and reflects the varying activity levels among the various subpopulations of schools used in this analysis. "Percentage increase" is defined as:

$$\frac{\text{post-pre}}{\text{pre}} \times 100$$

where "post" is defined as "allocated inventory following the completion of ongoing construction and remodeling programs", and "pre" is the allocated inventory as of fall, 1973.

TABLE 3.II.22

COMPARISON OF FALL, 1973 AND PROJECTED POST-CONSTRUCTION INVENTORIES OF MEDICAL SCHOOLS

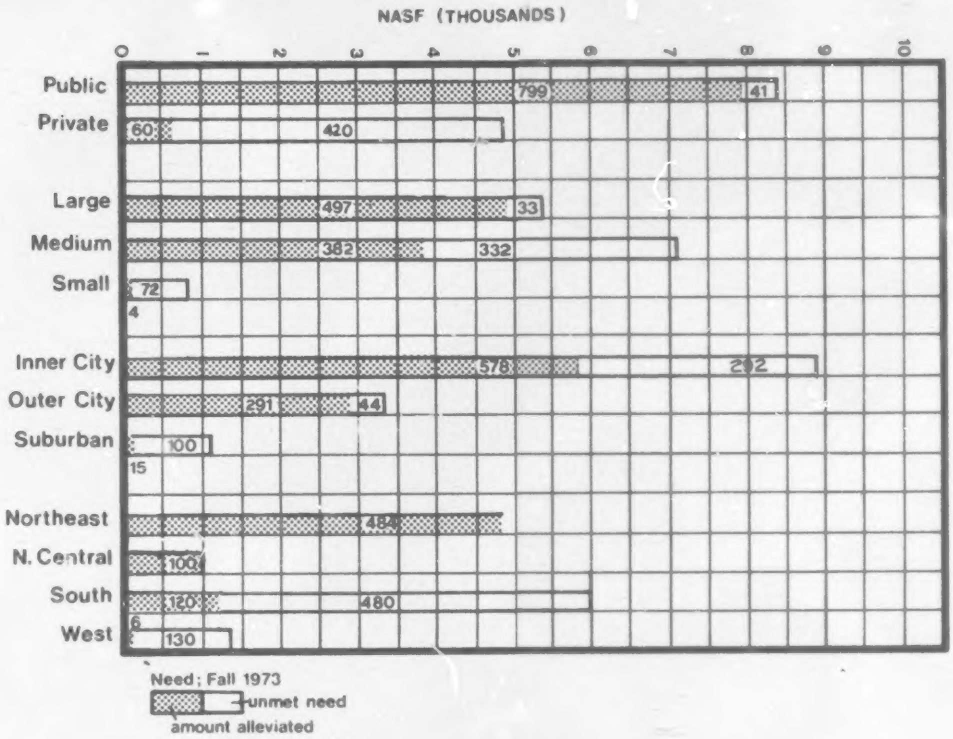
	NUMBER OF SCHOOLS	FALL 1973 NASF* (1)	POST-CONSTRUCTION NASF* (2)	DIFFERENCE (2) - (1) (3)	% CHANGE (3)-100/(1)
TOTAL	81	17,705	20,937	3,232	18%
Size of School					
Large	17	4,464	5,086	622	14%
Medium	44	10,337	12,369	2,032	20%
Small	20	2,904	3,482	578	20%
Control					
Public	47	9,555	11,856	2,301	24%
Private	34	8,150	9,081	931	11%
Geographic Locale					
Innercity	39	8,020	9,807	1,787	22%
Outercity	32	7,933	9,328	1,395	18%
Suburban	9	1,644	1,694	50	3%
Rural	1	108	108	0	0
Curriculum Type					
Classical	66	14,237	17,058	2,821	20%
Revised	15	3,468	3,879	411	12%
Census Region					
Northeast	23	5,469	6,369	900	16%
Northcentral	20	4,794	5,404	610	13%
South	29	5,486	7,184	1,698	31%
West	9	1,956	1,980	24	1%

* In thousands of NASF.

Since just over 4 million NASF of new facilities were reported as being under construction, and the amount of space rented or leased decreased by only 160,000 NASF in total, it is apparent that those new facilities constructed for replacement purposes are replacing owned rather than rented space. By multiplying the percentage of the GSF (under construction) reported to be for replacement purposes (22%), by the NASF of new construction, we obtain an estimated .89 million NASF of new construction for replacement purposes. It is interesting to compare this figure with that previously reported (that is, as of the survey date) to see how much of, and where, the needs for replacement are being fulfilled. In all, Figure 3.II.I shows that 1.32 million NASF were indicated by respondents as "needing replacement": using the .89 million NASF estimate, we find that 67% of the replacement need is being fulfilled. This percentage becomes widely divergent as we view the various categorizations of schools used previously in this analysis. In the public sector, over 95% of the reported need is being fulfilled by ongoing construction, while the corresponding figure for the private sector is only 13%. As a function of size of school, the percentage of the perceived "replacement" need being fulfilled ranges from just under 94% (for the large schools) down to 5% for the small schools, although in the latter case, Figure 3.II.I shows that this 5% figure is based on a replacement need less than 1/10 of the need for either the large or medium schools. Finally, while the magnitude of the replacement need was similar for the Northeast and Southern census regions (484,000 versus 600,000 NASF, respectively) the former region exhibits an estimated replacement portion of the ongoing construction of 105%; while the 12 schools of the Southern region exhibit a corresponding percentage of only 20%, as previously inferred from Table 3.II.21.

FIGURE 3.II.1

EFFECTS OF ONGOING CONSTRUCTION ON THE 1973 NEED FOR REPLACEMENT SPACE



Fifty-nine of the 81 respondents reported that, upon completion of ongoing construction and remodeling programs, 3.64 million NASF were still perceived as required for accommodation of the enrollment expected at that time. Subtracting 3.64 million from the 4.95 million NASF pre-construction need, it is apparent that, in the aggregate, 27% (1.3 million NASF) of the pre-construction need was to be alleviated by ongoing construction and remodeling efforts as of the survey date. (See Table 3.II.23.)

TABLE 3.II.23

PRE-CONSTRUCTION VERSUS POST-CONSTRUCTION NONCLINICAL NASF NEEDED

	NUMBER OF SCHOOLS REPORTING A NEED (1)	PRE-CONSTRUCTION NASF NEEDED (2)	POST-CONSTRUCTION NASF NEEDED (3)	% ALLEVIATED (3)x100/(2) (4)
TOTAL	59	4,949	3,636	27%
Size of School				
Large	16	1,220	736	40%
Medium	33	3,116	2,353	24%
Small	10	613	547	11%
Control				
Public	33	2,804	1,884	33%
Private	26	2,145	1,752	18%
Geographic Locale				
Innercity	30	2,424	1,672	31%
Outercity	23	1,933	1,450	25%
Suburban	5	553	475	14%
Rural	1	39	39	0%

As may be seen above, schools in the public sector reported that more of the pre-construction need was alleviated on a percentage basis than was true for the schools in the private sector. In terms of numbers of NASF, however, the remaining need is shared equally by the two sectors.

On a percentage basis, the impact of ongoing construction and remodeling on the pre-construction need is directly proportional to size of school. In the case of the small schools, it is apparent that the vigorous enrollment growth anticipated for the post-construction period is expected to greatly offset the space increases provided by their construction programs.

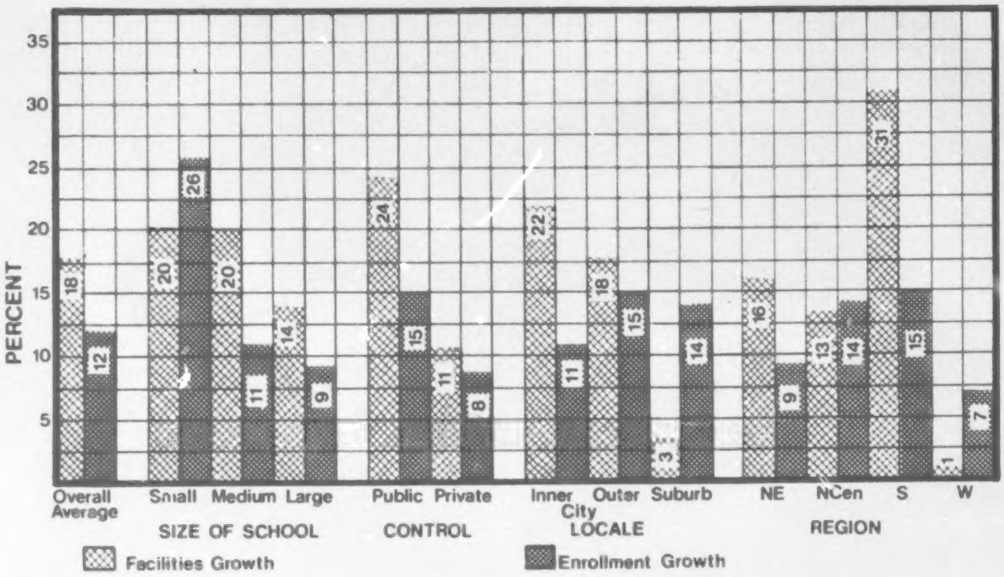
4. The Post Construction Student Population

The "post-construction period" was defined in part 2 of this report as, essentially, "that time period following the completion of all ongoing (as of fall, 1973) construction and remodeling efforts, given that at the completion of each schools' separate effort no subsequent changes to faculty, facilities, or enrollment occurred". With the inherent assumptions of this definition in mind, then, we find that the difference between the FTE enrollment as of the survey date and the FTE enrollment "following the completion of ongoing construction and remodeling" is 12%; with the respondents projected aggregate enrollment increasing from 45.5 to 51.1 thousand students. The most vigorous growth rate is exhibited by the "small" schools (26%), with the large and medium schools reporting aggregate growth rates of 9% and 11%, respectively. Schools of the public sector indicate an enrollment growth approximately twice that of those schools in the private sector: 15% versus 8%. The latter figures are representative of an even more widely divergent enrollment expansion in the absolute, however, since the public sector in the fall of 1973 had 50% more students than were enrolled in schools of the private sector.

In comparing the two brief analyses of facilities and enrollment growth, and summarizing them in Figure 3.II.J, it is found that notwithstanding the fact that each categorization of respondents reported some degree of overcrowding, there are a number of cases in which the percentage of enrollment growth exceeds the percentage increase in the size of the aggregate facilities inventory. Thus, while the suburban schools indicated an enrollment increase of 14%, the projected percentage increase in their overall facilities configuration was only 3%. Similarly, while the schools in the western census region indicated a limited enrollment growth of only 7%, this latter figure far exceeded the net facilities expansion resulting from ongoing construction and remodeling (1%). Finally, the "small" schools will be recalled to have indicated a 26% enrollment expansion: the 20% facilities expansion barely keeps pace with the latter period. On the other hand, the typical situation is one in which the facilities expansion percentage more than compensates for the enrollment increase. From this standpoint, the most notable case is that of the southern schools, in which a 31% projected facilities expansion outstrips the 15% enrollment growth factor, while the inner-city schools (typically a problem area in the sense of overcrowding) show an aggregate 22% increase in facilities to more than offset the anticipated 11% enrollment increase.

FIGURE 3.II.J

COMPARISON OF PRE- TO POST-CONSTRUCTION FACILITIES AND ENROLLMENT GROWTH



While the above kinds of comparisons are useful to the extent that they offer some degree of insight into the dynamics of the medical education arena, it is important to always bear in mind that the concept of a "post-construction period" is artificial and that many changes probably will take place over the period during which the various construction and remodeling programs of respondents are completed. That this period will not be brief is indicated by the fact that 6 of the 32 respondents indicating the existence of some construction program in 1973 revealed that these programs would not be complete until some time beyond 1977. Furthermore, it must be realized that as time progresses, the combination of changing educational concepts and improvements in construction methods may contribute to significant differences between that which respondents predicted and that which ultimately evolves upon the actual completion of a given program.

Overall, as seen in Table 3.II.24, ongoing construction programs will add 24 NASF per student. Although 9 of the latter NASF are not attributable to the specific room types due to certain respondents' inability to predict the exact configuration of their "post-construction inventory", we find that of the remaining 15 NASF, the bulk (12 NASF per student) is divided between research and library space, with the remainder scattered throughout the various room types. Due to the preponderance of research and research training space in the inventory as of the survey date, this addition represents only a 3% increase. On the other hand, since the current inventory exhibited an overall average of only 25 NASF per student of library space, the addition results in a 28% increase for this facility type.

TABLE 3.II.24
FALL, 1973 VERSUS POST-CONSTRUCTION NASF/STUDENT

	NASF/STUDENT FALL, 1973 (1)	NASF/STUDENT UPON COMPLETION OF CONSTRUCTION & REMODELING (2)	DIFFERENCE (2) - (1) (3)	% CHANGE (3)x100/(1) (4)
Classrooms	20	21	1	5%
Class Laboratories	44	44	0	0%
Res. & Res. Training	171	176	5	3%
Library	25	32	7	28%
Auditoria	7	8	1	14%
Faculty Offices	53	56	3	6%
Administrative Offices	42	40	-2	-5%
Animal Facilities	27	27	0	0%
TOTAL*	389	413	24	6%

* Total does not equal sum of room types since some respondents did not attribute construction to specific room types.

D. THE 1983 LOOK AHEAD--NONCLINICAL FACILITIES

1. Planned Construction and Its Purposes

Forty-six of the 81 medical school respondents indicated plans for the construction of 9.3 million NASF of facilities during the period between the completion of their ongoing construction and remodeling programs and the fall of 1983. These programs ranged in size from 17,000 to 802,000 NASF. The bulk of this new construction, some 5.3 million NASF, would be performed at schools in the Southern census region. Contrary to the pattern of current construction, the amounts planned by schools of the public and private sectors were approximately equal, although on a per school basis, the programs were typically smaller for the public sector (as they indicated 28 versus 18 schools to be involved).

Although planned remodeling was reported to a much lesser extent (2.06 million NASF), the relative proportions of remodeling to new construction seemed to hold constant between current programs and those planned for the future. Twenty-five of the 26 major remodeling programs were reported by schools in innercity and outercity locales (see Table 3.II.25).

TABLE 3.II.25

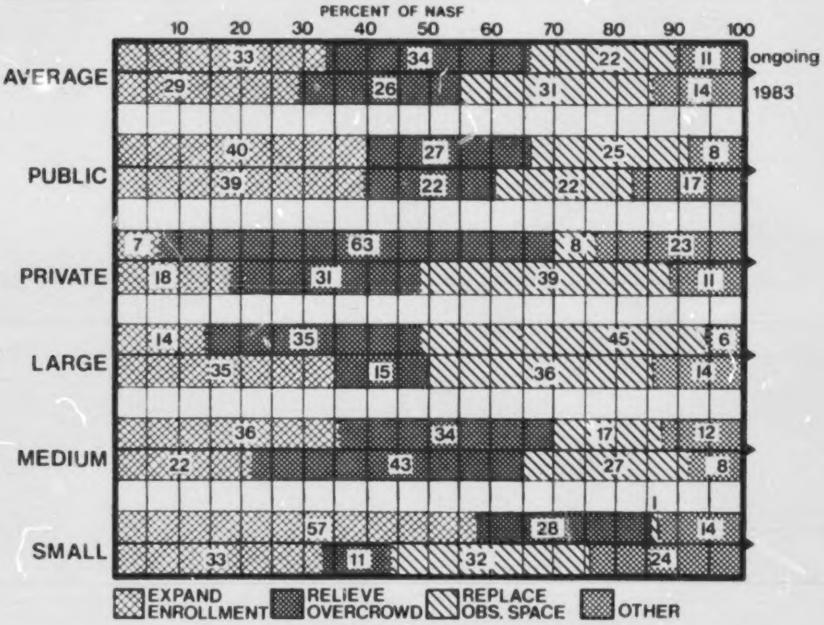
CONSTRUCTION AND REMODELING PLANNED THROUGH 1983

	REMODELING		NEW CONSTRUCTION	
	NUMBER OF SCHOOLS REPORTING	NASF (000)	NUMBER OF SCHOOLS REPORTING	NASF (000)
TOTAL	26	2,061	46	9,316
Size of School				
Large	9	940	12	2,197
Medium	15	1,039	23	4,580
Small	2	82	11	2,539
Control				
Public	16	1,111	28	4,831
Private	10	950	18	4,485
Geographic Locale				
Innercity	13	1,056	19	4,604
Outercity	12	981	19	3,075
Suburban	1	24	7	1,382
Rural	0	0	1	255
Curriculum Type				
Classical	20	1,534	36	7,922
Revised	6	527	10	1,394
Census Region				
Northeast	6	643	13	2,353
Northcentral	8	700	8	620
South	10	645	20	5,322
West	2	73	5	1,021

The purposes of the construction planned by respondents between the end of ongoing construction efforts and Academic Year 1983 tended to follow the same patterns as the construction purposes described for the ongoing construction. Overall, the percentages of the construction planned for expansion of enrollment and overcrowding relief were approximately equivalent (see Figure 3.II.K), while the percent required for replacement of obsolete facilities increased from 22% to 31%. Planned construction for enrollment expansion was again reported more frequently by schools in the public sector than in the private sector; but while facilities for enrollment expansion still appear to be one of the higher priorities of the public schools, the difference between the public and private sector decreased from a 6:1 ratio (40% versus 7%) for ongoing construction to a 2:1 ratio (39% versus 18%) for future construction.

FIGURE 3.II.K

COMPARISON OF MEDICAL SCHOOLS' PURPOSES OF PLANNED CONSTRUCTION THROUGH 1983 WITH PURPOSES OF ONGOING CONSTRUCTION

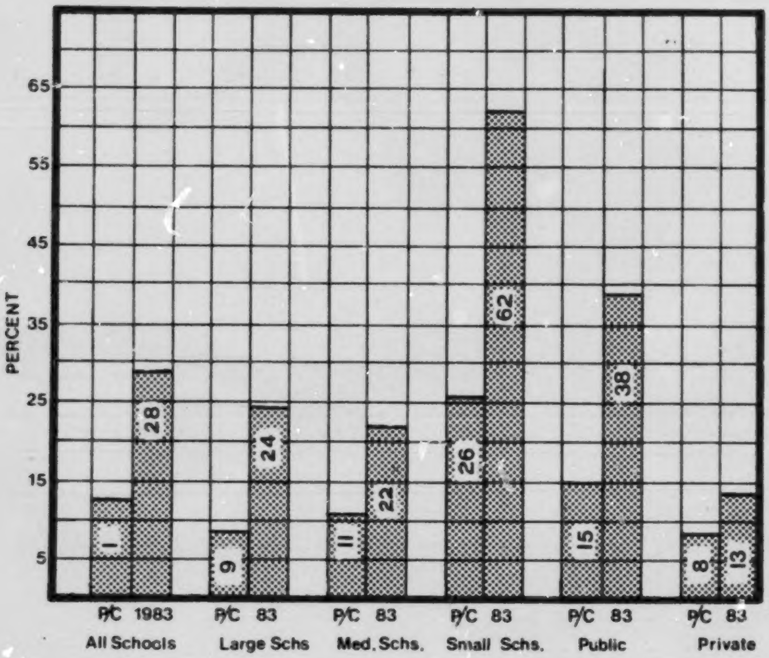


The very strong pattern of percentages of ongoing construction for expansion of enrollment among the various school size categories is not matched by the reported purposes of future construction. In particular, the 33% apportionment reported by the small schools for future enrollment expansion is far smaller than the 57% apportionment relevant to the construction ongoing as of the survey date. On the other side of the coin, the very low percentage originally reported by the large schools has been increased (for future construction) to one of the top priority items, with the "medium" sized schools remaining with approximately the same figure reported for ongoing construction. It might be noted here that the latter change in priorities for the small schools is matched by their greatly increased percentage of future construction to be applied to facilities replacement: while for the ongoing construction only 1% was for facilities replacement, the planned construction is expected to represent approximately 1/3 replacement of facilities. In sum then, it appears that the facilities improvement cycle evidenced by ongoing construction at large schools as of the survey date will be replaced, to some degree, by an enrollment growth cycle. Small schools, following a period of rapid growth in both facilities and enrollment, will greatly reduce their expansion programs.

The latter conclusions are supported by the enrollment fluctuations envisioned between the survey date and the 1983 academic year. Small schools exhibit the largest percentage increase (see Figure 3.II.L), more than double that which was expected to occur between Fall, 1973 and the "post-construction period". The same holds true for large schools, although they exhibit much lower figures on a percentage basis. As a group, schools in the public sector expect to exhibit a much greater growth rate over the next decade than the private schools--by nearly a factor of three. From Figure 3.II.L, it can be seen that in the private sector, the rate of growth is actually decreasing, while it continues to grow in the public sector.

FIGURE 3.II.L

MEDICAL SCHOOLS' TEN-YEAR ENROLLMENT GROWTH* ESTIMATE, 1973-1983



* NOTE: percentage figures represent change in enrollment x 100% divided by fall, 1973 enrollment.

2. Facilities Trends--1973-1983

Tables 3.II.26 and 3.II.27 summarize the changes occurring--and projected to occur to medical schools' controlled facilities--between 1973 and 1983. In both tables, it should be noted that "on-site patient care" and "other" facilities have been reinstated (in the total) for comparability with 1983 figures in which room-type distinctions were not made.

TABLE 3.II.26

GROWTH IN MEDICAL SCHOOLS' CONTROLLED NASF, 1973-1983

	NUMBER OF SCHOOLS (1)	NASF, 1973 (000) (2)	NASF, POST CONSTRUCTION (000) (3)	NASF, 1983 (000) (4)	POST-CONSTRUCTION AS A % OF 1973	1983 NASF AS A % OF 1973
TOTAL	81	22,855	26,588	36,246	116	159
Size of School						
Large	17	5,797	6,482	10,210	112	176
Medium	44	13,172	15,589	19,312	118	147
Small	20	3,886	4,517	6,724	116	173
Control						
Public	47	11,294	13,969	19,457	124	172
Private	34	11,561	12,619	16,789	109	145

Table 3.II.27 indicates that the NASF per student is expected to grow substantially by 1983, primarily at the large and medium-sized schools. It is interesting to note that the enrollment growth rate of small schools, overcoming as it does the facilities growth rate resulting from ongoing construction, (note shrinkage in NASF per student) is rebalanced by the facilities expansion expected through 1983.

TABLE 3.II.27

CHANGE IN MEDICAL SCHOOLS' NASF PER STUDENT, 1973-1983

	NASF/ STUDENT 1973	NASF/STUDENT POST-CONSTRUCTION	NASF/ STUDENT 1983	% INCREASE, 1973-1983
TOTAL	497	515	615	24
Size of School				
Large	374	386	531	42
Medium	541	576	652	21
Small	627	581	670	7
Control				
Public	406	438	508	25
Private	634	640	814	28

E. INVENTORY OF INSTRUCTION FACILITIES IN CLINICAL AREAS--FALL, 1973

1. Description of Facilities

a. Clinical Resources

The 81 medical schools reported 225 physically separate owned and major affiliated hospitals. Thus, the average medical school had major affiliation agreements with, or ownership of, approximately 2.8 hospitals. This average varies neither as a function of size of school, locale of school, or control (public or private ownership). On the other hand, probably for reasons of accessibility or population density, the schools of the Northeast and Northcentral regions each averaged much closer to 4 hospitals per school; while the schools in the Southern and Western census region averaged approximately 2 hospitals per school.

Most of the 225 hospitals reported offered both outpatient and inpatient care facilities: only 35 of these hospitals did not offer outpatient care; while only 17 did not offer inpatient beds for teaching purposes. As might be predicted from the number of medical schools located in each of the four locales defined by the survey instrument, 102 of the reported hospitals are located in innercity locales; 86 in outercity locales; and 33 and 4 are located in suburban and rural locales, respectively.

As may be seen in Table 3.II.28, the medical schools' service component in the teaching context is indeed substantial. Nearly 14.5 million outpatient visits, nearly half of them in innercity hospitals and clinics, are available for teaching purposes, as well as 96,000 beds with an Average Daily Patient Load (daily census) of about 74,000.

TABLE 3.II.28

CLINICAL RESOURCES USED FOR MEDICAL SCHOOLS' INSTRUCTIONAL PURPOSES AT OWNED AND MAJOR AFFILIATED HOSPITALS--FALL, 1973

	NUMBER OF IN-PATIENT FACIL-ITIES*	NUMBER OF TEACHING BEDS IN OWNED AND MAJOR AF-FILIATED HOSPITALS	FTE ENROLL-MENT	BEDS PER STUDENT	ADPL PER STUDENT	NUMBER OF OUT-PATIENT FACIL-ITIES*	OUTPA-TIENT STA-TIONS	STUDENTS PER OUT-PATIENT STATION	TEACHING RELATED OUTPATIENT VISITS	OUTPA-TIENT VISITS PER STU-DENT PER YEAR
TOTAL	216	95,828	45,514	2.10	1.63	220	14,314	3.18	14,491,829	318
Control										
Public	120	49,321	27,478	1.79	1.42	123	8,520	3.23	7,994,089	291
Private	96	46,507	18,036	2.58	1.94	97	5,794	3.11	6,497,740	360
Size of School										
Large	61	29,408	15,206	1.74	1.45	54	3,939	3.86	3,713,658	244
Medium	118	52,290	24,119	2.17	1.68	127	8,800	2.74	8,986,215	373
Small	37	14,130	6,189	2.28	1.82	39	1,575	3.93	1,791,956	289
Geographic Locale**										
Innercity	96	43,537	24,818	1.75	1.29	107	7,504	3.31	7,165,464	289
Outercity	84	38,015	16,984	2.24	1.78	76	5,181	3.28	5,487,615	323
Suburban	33	12,653	3,317	3.81	3.14	33	1,034	3.21	1,232,668	372
Rural	3	1,623	395	4.11	3.26	4	595	.66	606,082	1,534

* Includes hospitals and clinics reported as "on-site", that is, physically integrated with the school's controlled, basic biological sciences instruction facilities.

** Locale of the hospital or clinic.

From the table, it can be seen that the average outpatient visits per year per student and daily census per student tend to vary to some degree with school size, school control, and hospital locale. The suburban and rural hospitals indicated a decidedly larger volume of clinical "traffic" than the other locales or other characterizations of the hospitals and clinics.

Respondents also reported a total of 337 "minor affiliates" which were used for instructional purposes, but not as major components of a training program. Representing nearly 74,000 beds and 2,658 "patient stations" for ambulatory care, these facilities clearly added a significant component to the clinical resources available for teaching purposes. With only 147 of the minor affiliates reporting ambulatory patient visits, the total visits still summed to over 3 million--an average of 21,000 visits per affiliate per year.

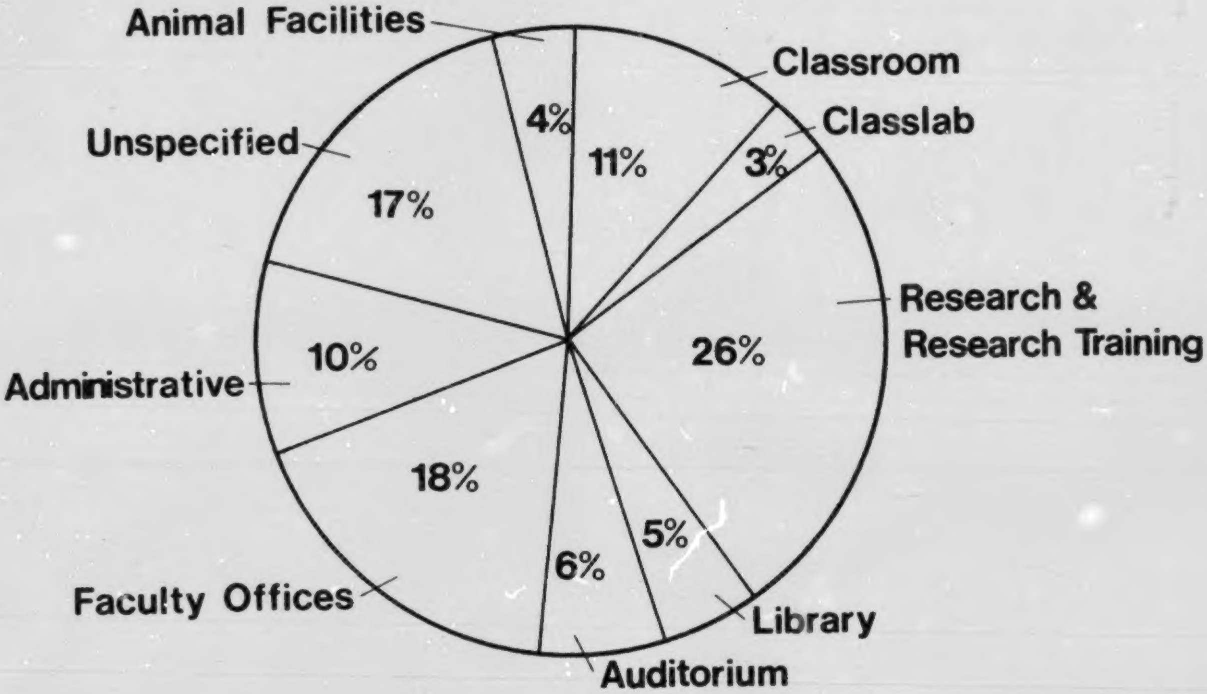
b. Nonclinical Instruction Facilities in Clinical Areas

The 5.05 million NASF of nonclinical instruction facilities found in owned and major affiliated hospitals represented nearly a 30% addition to the medical schools' instructional facilities in nonclinical areas. Of the 225 hospitals reported, 171 made nonclinical instruction areas available for academic purposes.

The "distribution profile" of nonclinical instruction facilities in the owned and major affiliated hospitals and clinics (e.g., the percentage of space considered "classroom", "class lab", etc.), strongly paralleled the distribution of space in the medical schools' basic biological sciences facilities (see Figure 3.II.M). Research and research training space represented the largest percentage of nonclinical instruction facilities in clinical areas, accounting for 26% of the 5.05 million NASF reported. Faculty offices were the next largest portion, representing 18% of the distribution profile. Classrooms and class laboratories accounted for 14% of the space.

FIGURE 3.II.M

MEDICAL SCHOOLS' DISTRIBUTION PROFILE OF NONCLINICAL INSTRUCTION FACILITIES IN OWNED AND MAJOR AFFILIATED HOSPITALS, FALL, 1973



The average representation of class laboratory space was the lowest of all the space types: 3% of the distribution profile. This result is not particularly surprising in view of the fact that most class laboratory instruction takes place during the student's education when he has little if any contact with patients. On the other hand, classroom facilities represented 11% of the distribution profile as reported at the 171 hospitals of concern. Whether this space was used for scheduled, formal instruction, or as a gathering place for small group conferences is not known. However, respondents stressed during telephone follow-up discussions, that significant amounts of classroom type instructional space must be available at a clinical facility if the latter is to be optimally usable for clinical training purposes.

To some degree, the aggregate distribution profile is affected by size of school. In particular, "small" schools reported a below average availability of research and research training space and administrative areas; while they exhibited a well above average availability (24%) of faculty office space. On the other hand, the 48 hospitals used by "large" schools exhibited an aggregate 17% availability of classroom-type instructional facilities, with the medium and small schools exhibiting only 9 and 11%, respectively.

When the schools are grouped according to control, it becomes apparent that schools in the private sector had relative access to much more research and research training space than did schools in the public sector: the distribution profile of those 70 hospitals used by the private schools of medicine reported an aggregate 34% representation of research and research training space (as opposed to 20% in the 101 hospitals offering nonclinical instruction facilities to schools in the public sector). The public sector had relatively greater availability of faculty office space than did schools of the private sector: 22% versus 13%, respectively.

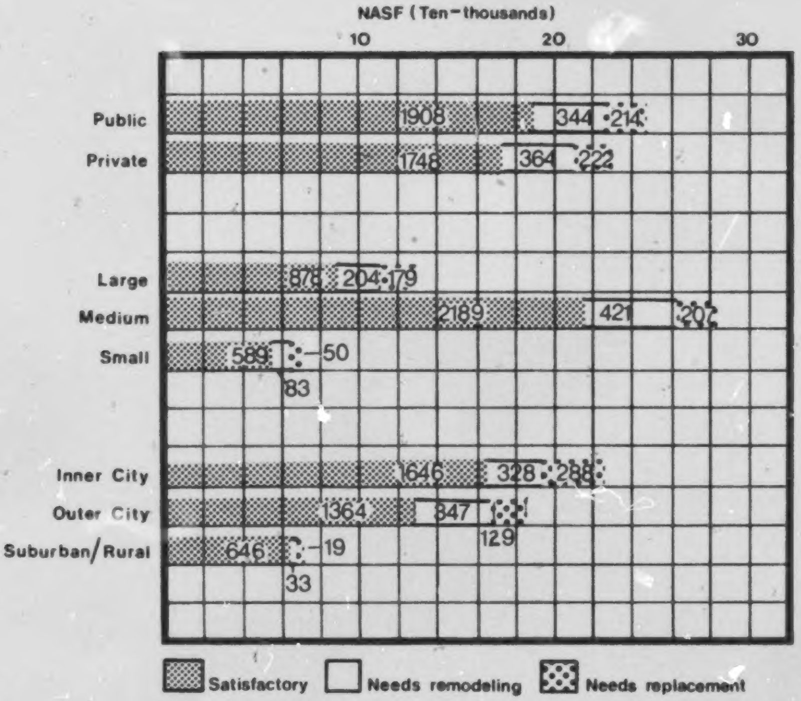
2. Adequacy of Nonclinical Instruction Facilities in Clinical Areas, Fall 1973

a. Condition

Respondents reported that approximately 72% (3.66 million NASF) of the fall, 1973 inventory of nonclinical instruction facilities in clinical settings were "satisfactory for program purposes". Of the 23% considered unsatisfactory, well over half (61%) needed remodeling; while the remainder (some .4 million NASF) required replacement (see Figure 3.II.N). Only 2/3 of the space available to the "large" schools was considered satisfactory, while for the medium and small schools the respective percentages were 74 and 76%. Although control of school does not appear to be related to the condition of space, the distribution of the hospitals by locale indicates a strong trend in the direction of additional requirements for replacement space as we move from rural to innercity locales. In particular, 12% of the space available to medical schools' hospitals in innercity locations was perceived as requiring replacement; while only 7% required replacement in outercity hospitals and 3% for suburban hospitals. Most of the "unaccounted-for" space (by condition) was at the 4 rural hospitals, and the figures are thus too sparse to have meaning.

FIGURE 3.II.N

CONDITION OF NONCLINICAL INSTRUCTION FACILITIES IN MEDICAL SCHOOLS' OWNED AND MAJOR AFFILIATED HOSPITALS



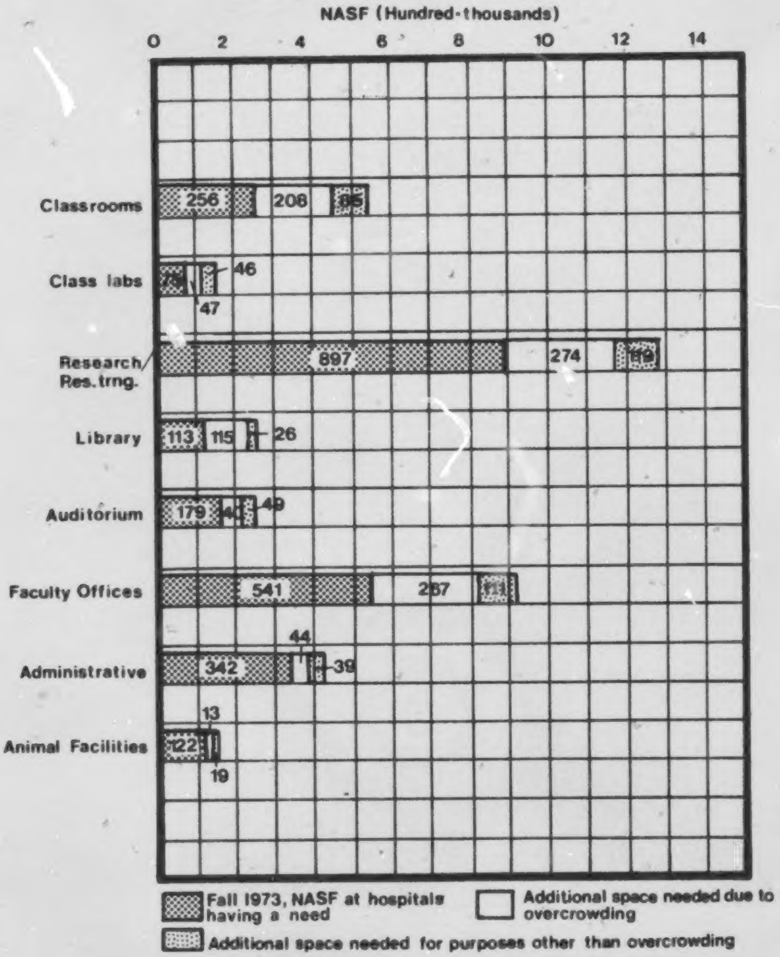
A consistent pattern of improvement in condition of nonclinical instruction facilities in clinical areas appears as we move from North to South and East to West across the country. Taken in order (Northeast, Northcentral, South, and West) the respective percentages of satisfactory space were 66, 72, 74, and 89.

b. Instructional Facilities Needed in Clinical Settings

At least one major affiliate of each of the 81 respondent schools reported a need for additional facilities as of fall, 1973. Again, respondents were instructed not to consider the ameliorating effect of ongoing construction and remodeling upon the need that existed as of the survey date. One and one-half million additional NASF were reported as needed by hospitals with 2.5 million NASF as of the survey date: and one million of these needed NASF were reported to be for relief of overcrowding. While the NASF needed represented 59% of the fall, 1973 inventory, the percentages by room type varied greatly (see Figure 3.II.0).

FIGURE 3.II.0

PURPOSES OF ADDITIONAL NONCLINICAL INSTRUCTION FACILITIES NEEDED IN CLINICAL AREAS, FALL, 1973



Nearly 20% of the additional space needed was attributable to classrooms; 26% for research and research training space; and 25% for expansion of faculty office space. The aforementioned doubling of class lab facilities actually represents just over 6% of the NASF perceived as needed. Library facilities accounted for 10% of the total NASF needed (a 125% expansion). It should be noted that 82% of the perceived need for additional library space was primarily a function of overcrowding. It thus seems reasonable to conclude that although the amount of library space in hospitals and clinics need not be particularly large as a percentage of the total inventory, a certain amount is necessary for effective use of the hospital as a teaching facility.

Concentrating on the overall need as a function of size, control, and location parameters, we find that the portion of NASF required to relieve overcrowding decreased as size of school increased: 84% at hospitals of small schools; 65% at medium schools; and 60% at large schools. Overcrowding does not seem to be particularly a function of control. Hospitals associated with schools in the public sector indicated that 70% (598,000 NASF) of the 859,000 NASF needed were attributable to overcrowding, while 63% (401,000 NASF) of the 684,000 NASF were related to overcrowding in the private sector.

F. ONGOING CONSTRUCTION AND REMODELING, AND THE POST-CONSTRUCTION INVENTORY OF NONCLINICAL INSTRUCTION FACILITIES IN CLINICAL SETTINGS

1. Extent, Purposes, and Cost

Seventy of the 225 hospitals associated with the 81 respondent schools of medicine indicated that, as of the survey date, they were involved in 12.9 million GSF of new construction programs, and 2.8 million NSF of remodeling. (It should be noted, that unless otherwise specified, the amounts of construction and remodeling and the purposes to which the new construction is being applied relate not only to nonclinical instruction facilities but to patient care areas as well.) The total cost of this new construction and remodeling, some $1.1 billion, is divided almost equally between the public and private sectors. Over half the new GSF and 3/4 of the remodeling were being performed at the 37 innercity hospitals which reported either a construction or remodeling program.

TABLE 3.II.29
OVERVIEW OF ONGOING CONSTRUCTION AND REMODELING OF NONCLINICAL FACILITIES IN CLINICAL AREAS AT MEDICAL SCHOOLS, FALL 1973

	NUMBER OF HOSPITALS REPORTING CONSTRUCTION AND REMODELING	GSF OF NEW CONSTRUCTION (000)	NEW CONSTRUCTION COST ($000)	NSF OF REMODELING (000)	REMODELING COST ($000)
TOTAL	70	12,908	937,378	2,834	139,803
Size of School					
Large	16	4,342	278,536	397	42,468
Medium	44	6,496	454,447	2,120	80,803
Small	10	2,070	204,395	317	16,532
Control					
Public	36	7,408	446,688	1,836	92,163
Private	34	5,500	490,690	998	47,640
Geographic Locale					
Innercity	37	6,777	540,637	2,133	102,874
Outercity	22	5,239	331,725	593	33,187
Suburban	8	679	46,579	74	3,255
Rural	3	213	18,437	34	487
Curriculum Type					
Classical	56	11,659	867,314	2,463	127,096
Revised	14	1,249	70,064	371	12,707

In terms of numbers and cost the findings were in line with previous findings regarding the needs and condition of space reported by these innercity hospitals.

Table 3.II.30 displays respondents' estimates of the percentage amounts of space being constructed for the four purposes outlined by the survey instrument.

TABLE 3.II.30

PURPOSES OF ONGOING CONSTRUCTION OF NONCLINICAL INSTRUCTION FACILITIES IN OWNED AND MAJOR AFFILIATED HOSPITALS

	NUMBER OF HOSPITALS	% TO EXPAND ENROLLMENT	% TO RELIEVE OVERCROWDING	% TO REPLACE OBSOLETE SPACE	% FOR OTHER PURPOSES
AVERAGE/TOTAL	50	21	21	48	9
Size of School					
Large	11	31	8	58	3
Medium	30	15	26	46	11
Small	9	22	32	32	14
Control					
Public	27	27	17	47	9
Private	23	13	27	49	9
Geographic Locale					
Innercity	26	21	16	56	4
Outercity	17	23	20	45	12
Suburban	5	5	59	0	36
Rural	2	42	58	0	0
Census Region					
Northeast	14	14	16	54	12
Northcentral	13	17	21	54	9
South	20	20	33	38	9
West	3	48	3	48	1

As can be seen in Table 3.II.30, while the 50 hospitals involved in a construction program indicated that the principal purpose of the ongoing construction effort is that of replacing obsolete space, this and other percentages do not hold constant throughout the various groupings of the subpopulation. For example, the percentage of space reported for replacement of obsolete facilities decreases with decreasing school size, from 58% for the large schools to 32% for the small schools. Overcrowding relief presents a pattern in the opposite direction from that just described, so that small schools reported four-times the construction (32% on a percentage basis) for this purpose than did the large schools (8%). We note that the "obsolescence problem", heretofore referenced as a "chronic problem of the private sector", appears in the current context to be equally troublesome to both public and private schools. On the other hand the enrollment growth patterns established in past discussion are well supported here: it has been stated that the public sector was predicting a growth rate approximately twice that of the private sector. It is thus not surprising to find that the hospitals associated with schools in the public sector reported that much more of their ongoing construction is for expansion of enrollment than was reported by the hospitals associated with schools in the private sector.

The location parameters (locale and census region) also yield some interesting figures *vis-a-vis* the purposes of new construction in clinical settings. The innercity and outercity hospitals reported approximately 50% of their ongoing new construction to be for replacement of obsolete space while neither the suburban nor the rural hospitals indicated any need for replacement of obsolete space.

Schools in the Western census region indicated that 48% of their 1.77 million GSF of new construction are to be applied to enrollment expansion, 48% are due to replace obsolete facilities, and only 3% are for overcrowding relief. Since the portion of NASF needed to relieve overcrowding was reported by schools of the Western region in the fall of 1973 to be between 71% and 76%, it is likely that the schools in this region will, in the future, move toward greater relief of overcrowding in view of the apparent mismatch between the 1973 needs and purposes of ongoing construction.

2. Sources of Funds for Ongoing Construction and Remodeling Programs in Owned and Major Affiliated Hospitals and Clinics--Fall, 1973

Of the $1.1 billion reported as "fully authorized" for ongoing construction and remodeling efforts, over 36% was obtained through borrowing, with state and local funds contributing 25% of the total. Federal sources included the 7% in HPEA construction grants and 9% of other Federal funds while private funds (8%), the contributions of foundations and philanthropies (8%), and 7% of unreported sources round out the picture. The state and local funding of construction in the public sector was approximately at the same percentage level as found for the non-clinical "allocated" facilities construction (42%). However, hospitals associated with schools in the private sector appeared to depend much more heavily on borrowing (35%) than was the case for the corresponding construction of the "allocated" facilities.

Respondents were requested to indicate each type of space partially or entirely constructed with the support of HPEA funding. It is of interest to note that the greatest percentage of such indications related to the support of classroom space and faculty office space. In line with previous findings regarding the "profile" of the need for instructional facilities in clinical settings it appears that HPEA assistance was being applied in accordance with the perceived needs of respondents.

3. The Effects of Ongoing Construction and Remodeling in Clinical Settings

The ongoing construction and remodeling at owned and major affiliated hospitals and clinics will result in the addition of nearly 4,700 teaching beds and 3,300 ambulatory patient stations to the inventory of such facilities existing as of the survey date (see Table 3.II.31). Even though, as of the survey date, small schools reported the smallest number of ambulatory patient stations per student, (i.e., the largest student-to-station ratio), it may be shown that these same schools are adding the smallest number of ambulatory patient stations per added student in the "post-construction period" (.35), while the large and medium-sized schools indicated 1.26 and .40 (new) stations per (new) student, respectively.

TABLE 3.II.31

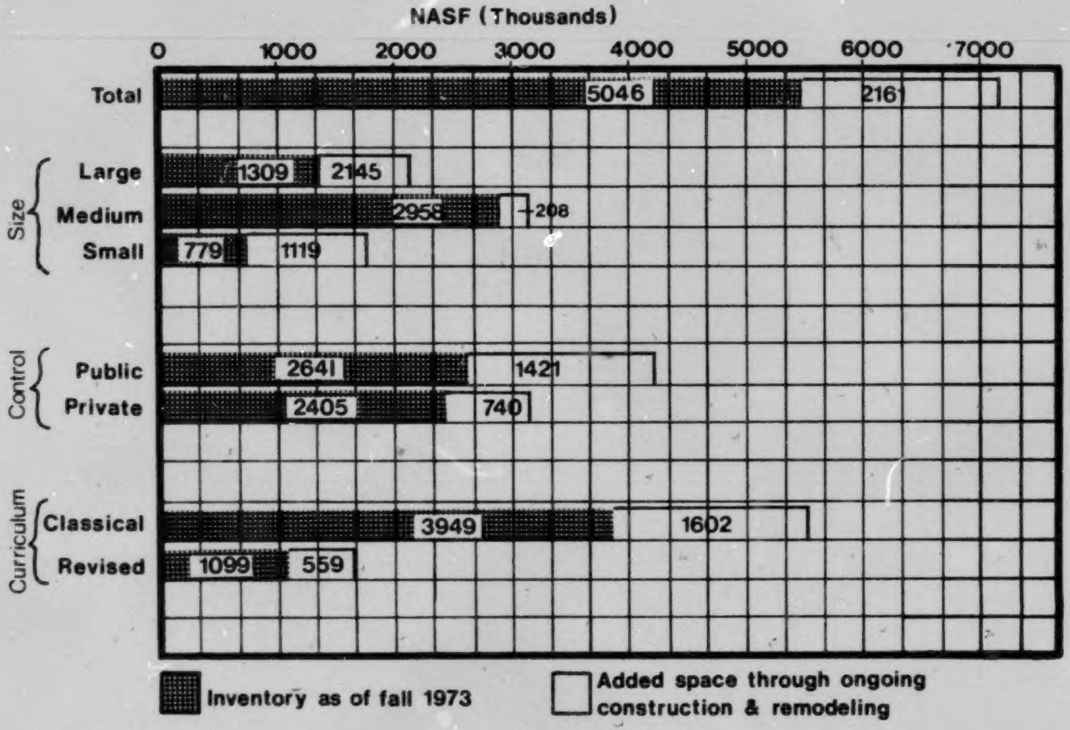
THE EFFECTS OF ONGOING CONSTRUCTION AND REMODELING ON OWNED AND MAJOR AFFILIATED HOSPITALS

	NUMBER HOSPITALS REPORTING ADDED BEDS	ADDITIONAL BEDS TO RESULT FROM ONGOING CONSTRUCTION	NUMBER HOSPITALS REPORTING ADDED EXAMINING AND TREATMENT ROOMS	ADDITIONAL STATIONS IN EXAMINING AND TREATMENT ROOMS	ADDITIONAL NASF (000) OF NON-CLINICAL INSTRUCTION SPACE
TOTAL	34	4,676	43	3,299	2,161
Size of School					
Large	7	983	7	1,674	836
Medium	22	2,951	29	1,077	208
Small	5	742	7	548	1,117
Control					
Public	20	2,699	25	2,590	1,421
Private	14	1,977	18	709	740

The net effect, on physical plant, of ongoing construction and remodeling in hospitals and clinics will be to add 2.16 million NASF (43%) to the inventory that existed as of the Fall, 1973. On a percentage basis, this increase most impacts the hospitals associated with "small" schools, for whom it represents a 143% addition to the .78 million NASF which previously existed (see Figure 3.II.P).

FIGURE 3.II.P

IMPACT OF ONGOING CONSTRUCTION AND REMODELING ON MEDICAL SCHOOLS' NON-CLINICAL INSTRUCTION FACILITIES IN CLINICAL AREAS



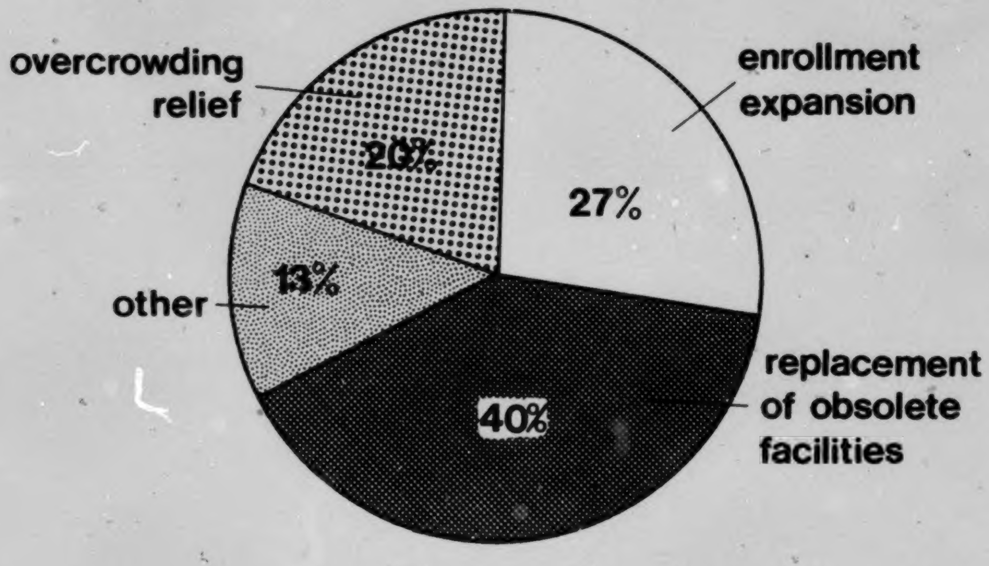
Hospitals associated with schools in the public sector anticipated adding half again as much space through ongoing construction programs as existed prior to the latter: from 2.64 million NASF, the post-construction inventory of non-clinical instruction space in clinical areas was expected to rise to 4.06 million NASF. While schools of the private sector reported that their owned and major affiliated hospitals will also add significant amounts of space, the percentage change is less than 60% that of the public sector.

G. THE 1983 LOOK AHEAD FOR CLINICAL INSTRUCTION FACILITIES

Respondents were requested to project the NASF expected to exist, for teaching purposes, at the start of the 1983 academic year. Unfortunately, the instructions did not specify that patient-care areas were to be omitted. As a result, the 1983 inventory of 15.5 million NASF is not comparable with the 7.2 million NASF reported for the "post-construction period".

FIGURE 3.II.Q

PURPOSES OF PLANNED CONSTRUCTION OF CLINICAL FACILITIES THROUGH 1983



As is seen in Figure 3.II.Q, the primary construction purpose is that of replacement of obsolete facilities. "Large" and "medium" sized schools' hospitals indicated the application of 40% of new construction to the obsolescence problem (see Table 3.II.32), so that the 29% figure of the six (of 43) hospitals associated with "small" schools tends to be overshadowed. For the latter schools, "enrollment expansion" still ranked as the priority purpose (32%).

TABLE 3.II.32

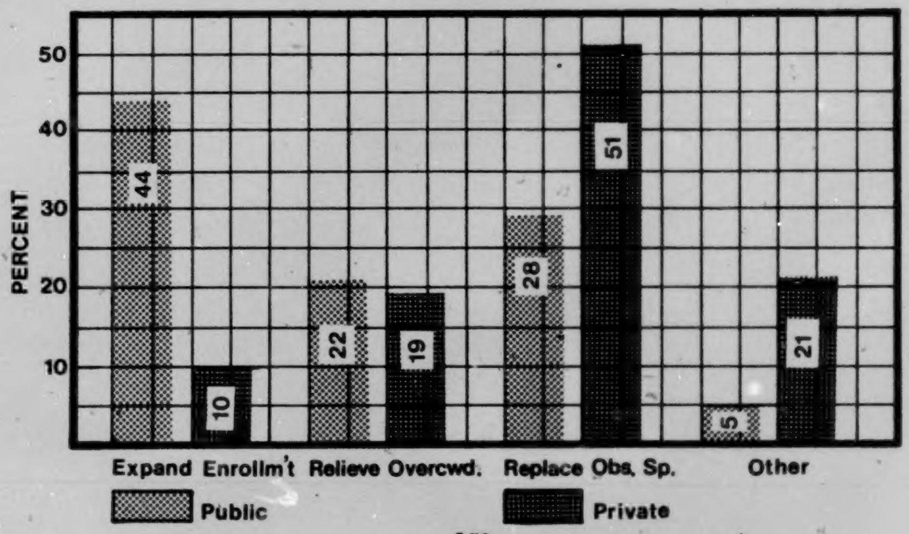
DETAILED PURPOSES OF PLANNED CONSTRUCTION OF CLINICAL FACILITIES AS A FUNCTION OF SCHOOL SIZE

	GSF TO EXPAND ENROLLMENT		GSF TO RELIEVE OVERCROWDING		GSF TO RE-PLACE OBSOLETE SPACE		GSF FOR OTHER PURPOSES	
	Number (000)	%	Number (000)	%	Number (000)	%	Number (000)	%
TOTAL	2,737	21	2,704	21	6,194	48	1,128	9
Large	1,329	31	363	8	2,518	58	132	3
Medium	957	15	1,670	26	3,011	46	715	11
Small	451	22	671	32	665	32	281	14

The approximately equal numbers of public and private sector hospitals reporting planned construction prior to 1983 (23 and 20 hospitals, respectively) were widely variant with respect to construction purposes, as is seen in Figure 3.II.R. Forty-four percent of the publicly controlled space (4 times the percentage for the privately controlled hospitals) will be for enrollment expansion; while the bulk of the planned construction for the private sector will be for obsolete facilities replacement. Previous commentary has highlighted the extremely strong evidence that the public sector will show a larger growth rate than that of the private sector, and the above data imply no exception to past findings.

FIGURE 3.II.R

CONTRAST IN PUBLIC VERSUS PRIVATE SCHOOLS' PURPOSES OF PLANNED CONSTRUCTION IN OWNED AND MAJOR AFFILIATED HOSPITALS AND CLINICS



H. NEW AND TWO-YEAR SCHOOLS OF MEDICINE

1. New Schools

a. Inventory of Nonclinical Instruction Facilities as of Fall, 1973

The eight new schools of medicine responding to the survey controlled 319,000 NASF of nonclinical instruction facilities as of the fall of 1973. 207,000 NASF of this space was owned, with the remainder rented or leased.

As may be seen in Table 3.II.33, 90% of the available space (287,000 NASF) was considered satisfactory for program purposes. Of the 32,000 NASF considered unsatisfactory, 1,000 NASF needed remodeling and 31,000 NASF (all of it at one school) required replacement.

TABLE 3.II.33
NEW MEDICAL SCHOOLS' AMOUNT AND CONDITION OF NONCLINICAL FACILITIES--FALL, 1973

	NUMBER OF SCHOOLS	NASF (000) OWNED	NASF (000) RENTED	TOTAL NASF (000)	NASF SATISFACTORY (000)	NASF UNSATIS-FACTORY
TOTAL	8	207	112	319	287	32
Control						
Public	7	198	112	310	278	32
Private	1	9		9	9	0
Geographic Locale						
Innercity	1	0	26	26	26	0
Outercity	6	189	71	260	228	32
Suburban	1	18	15	33	33	0

To satisfactorily accommodate their fall, 1973 enrollment of 482 FTE students, the eight new schools indicated a need for 198,000 NASF of space, over half (101,000 NASF) in animal facilities. Were this need to be fulfilled, the rapid rate of growth in enrollment anticipated by these schools would more than offset the added space, as described below.

b. Ongoing and Future Construction and Their Effects

As of the survey date, seven of the new medical schools were involved in construction programs for enrollment expansion which would triple the allocated inventory of nonclinical facilities, and would reduce the rented portion of that inventory. Table 3.II.34 gives an overview of the construction programs themselves, and Table 3.II.35 summarizes the net effect of these programs on the allocated inventory.

TABLE 3.II.34

OVERVIEW OF ONGOING CONSTRUCTION AND REMODELING, NEW MEDICAL SCHOOLS--FALL, 1973

				SOURCE OF FUNDS (%)			
	NUMBER OF SCHOOLS	CONSTRUCTION COST ($ MILLIONS)	GSF BEING CONSTRUCTED (000)	STATE, LOCAL	HPEA GRANTS	OTHER FEDERAL	PRIVATE, PHILAN-THROPIC & OTHER
TOTAL	7	139.7	2,162	66	23	10	1
Control							
Public	6	138.3	2,136	66	23	10	
Private	1	1.4	26				100
Geographic Locale							
Innercity	1	13.3	230	33	67		
Outercity	6	126.4	1,932	69	18	11	

TABLE 3.II.35

THE EFFECT OF ONGOING CONSTRUCTION AT NEW MEDICAL SCHOOLS--FALL, 1973

	TOTAL INVENTORY FOLLOWING CONSTRUCTION (000 NASF)	OWNED INVENTORY FOLLOWING CONSTRUCTION (000 NASF)	RENTED INVENTORY FOLLOWING CONSTRUCTION (000 NASF)	PERCENT EXPANSION IN 1973 ENVENTORY	FTE ENROLLMENT FOLLOWING CONSTRUCTION	PERCENT EXPANSION IN 1973 FTE ENROLLMENT
TOTAL	1,069	1,023	46	335	2,724	465
Control						
Public	1,052	1,006	46	339	2,564	480
Private	17	17	0	189	160	300
Geographic Locale						
Innercity	93	93	0	358	450	436
Outercity	943	912	31	363	1,946	510
Suburban	33	18	15	0	328	315

Following the completion of ongoing construction programs, four of the eight new schools would still require additional space to alleviate the overcrowding problem associated with the rapid enrollment increase and to accommodate further increases in enrollment. In all, 424,000 NASF of space would be necessary, 237,000 of it for overcrowding relief and the remainder for enrollment expansion. Table 3.II.36 presents a profile of these needs on a room-type basis.

TABLE 3.II.36

NEW MEDICAL SCHOOLS' NONCLINICAL FACILITIES NEEDS FOLLOWING COMPLETION OF ONGOING CONSTRUCTION PROGRAMS

	NASF* (AT ALL SCHOOLS) FOLLOWING CONSTRUCTION	NASF* (AT 4 SCHOOLS REPORTING A NEED)	NASF* NEEDED	NEED AS % OF NASF AVAILABLE (AT SCHOOLS REPORTING A NEED)
Classrooms	131	104	71	68
Class Laboratories	126	43	30	70
Res. & Res. Training	317	197	97	49
Library	113	37	77	208
Auditorium	24	0	26	--
Faculty Offices	123	97	48	49
Administrative Offices	133	60	36	60
Animal Facilities	103	38	39	103
TOTAL	1,069	666	424	64

* In thousands.

Although three schools plan major construction programs for completion by the fall of 1983 (excluding ongoing construction), the added NASF will not be sufficient to overcome the 424,000 NASF need perceived to remain upon completion of the ongoing construction programs. The projected programs would result in the addition of 368,000 NASF to the inventory; and this space may include patient care or "other" facilities not included in the 424,000 NASF need.

c. Clinical Facilities

Six of the eight new medical schools reported they were already utilizing 23 inpatient facilities and 17 outpatient facilities (with some overlap of the two at some of the hospitals) as of the fall of 1973. Representing 7,462 beds with a daily census of 5,079, and 2,341 patient stations in ambulatory care areas, these hospitals and clinics also made 210,000 NASF of nonclinical instruction facilities available for use -- nearly a 66% addition to the allocated nonclinical facilities reported outside of clinical settings.

Of this 210,000 NASF, 97% was considered satisfactory for program purposes, with 5,000 NASF and 1,000 NASF respectively needing either remodeling or replacement. An additional 26,000 NASF were reported as needed, most of it (23,000 NASF) for overcrowding relief.

Table 3.II.37 gives an overview of the construction and remodeling programs ongoing as of fall, 1973 , and Figure 3.II.S describes their funding sources. As in the case of nonclinical facilities outside of clinical settings, the effects of the new construction are substantial (see Table 3.II.38).

TABLE 3.II.37
OVERVIEW OF ONGOING CONSTRUCTION AND REMODELING, NEW MEDICAL SCHOOLS--FALL, 1973

	SCHOOLS REPORTING CONSTRUCTION OR REMODELING	GSF BEING BUILT (000)	COST OF CONSTRUCTION ($000)	NSF BEING REMODELED (000)	REMODELING COST ($000)	ADDED BEDS	ADDED PATIENT STATIONS (AMBULATORY)
TOTAL	5	2,329	157,489	334	13,461	886	731
Control							
Public	5	2,329	157,489	334	13,461	886	731
Private	0						
Geographic Locale							
Innercity	1	731	49,989	66	4,961	133	308
Outercity	3	1,211	82,500	268	8,500	753	423
Suburban	1	387	25,000	0			

FIGURE 3.II.S

SOURCES OF FUNDS FOR NEW MEDICAL SCHOOLS' CONSTRUCTION AND REMODELING OF CLINICAL FACILITIES

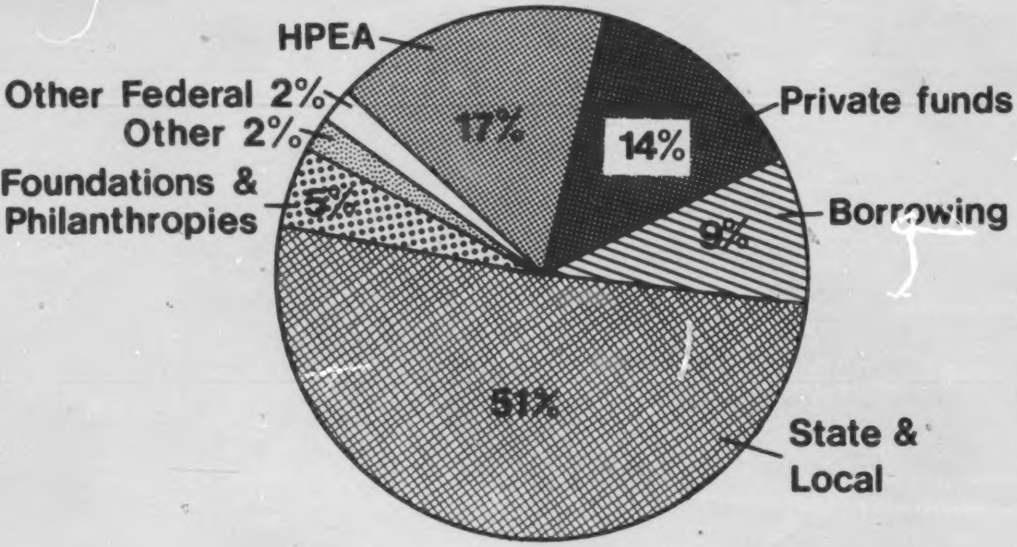


TABLE 3.II.38

EFFECT OF ONGOING CONSTRUCTION ON NONCLINICAL FACILITIES IN CLINICAL SETTINGS

	NUMBER OF HOSPITALS	NASF, 1973 (000)	NASF, POST CONSTRUCTION (000)	NET ADDITION TO NASF (000)	% INCREASE OVER 1973 INVENTORY
TOTAL	25	216	449	233	108
Control					
Public	22	216	449	233	108
Private	3	0	0		
Geographic Locale					
Innercity	9	151	314	163	108
Outercity	16	65	135	70	108

2. Two-year Schools

a. Size and Adequacy of Fall, 1973 Inventory

The five two-year medical schools responding to the survey reported 350,000 NASF of "allocated" nonclinical instruction facilities, with 1,000 NASF of this total being rented space. Only 3,000 NASF were reported to require either remodeling or replacement (see Table 3. II. 39).

TABLE 3.II.39

OVERVIEW OF THE SIZE AND CONDITION OF TWO-YEAR MEDICAL SCHOOLS' NONCLINICAL INSTRUCTION FACILITIES

	NUMBER OF SCHOOLS	OWNED NASF (000)	TOTAL NASF (000)	SATISFACTORY NASF (000)	UNSATISFACTORY NASF (000)
TOTAL	5	349	350	347	3
Control					
Public	4	239	240	237	3
Private	1	110	110	110	0
Geographic Locale					
Outer city	4	302	303	300	3
Rural	1	47	47	47	0
Census Region					
Northeast	1	110	110	110	0
Northcentral	2	105	106	106	0
South	0	0	0	0	
West	2	134	134	131	3

In support of the 742 Full Time Equivalent students enrolled as of fall, 1973, these five respondents indicated a need for 64,000 additional NASF of nonclinical instructional space, of which the largest portion (20,000 NASF) was for research and research training and 18,000 NASF was for classrooms and class laboratories. The remaining facilities needs were spread among library (8,000 NASF), administrative offices (8,000 NASF), faculty offices (6,000 NASF) and auditoria (4,000 NASF). Three schools indicated a need for $630,000 per year in operating funds and $97,000 for equipment. In addition 66 FTE faculty and 16 support staff were reported to be required to accommodate the 1973 level of enrollment.

b. Extent and Effect of Ongoing Construction and Remodeling

Three remodeling programs were ongoing as of fall, 1973 at a total cost of $428,000. Sources of funds for these ongoing efforts are primarily the institutions own resources ($240,000) and state funds ($129,000).

TABLE 3.II.40

EFFECTS OF ONGOING CONSTRUCTION AND REMODELING, TWO-YEAR MEDICAL SCHOOLS

	FALL, 1973 INVENTORY (000 NASF)	POST-CONSTRUCTION INVENTORY (000 NASF)	INCREASE (%)	FALL, 1973 ENROLLMENT FTE)	POST-CONSTRUCTION ENROLLMENT (FTE)	INCREASE (%)	NASF PER STUDENT
TOTAL	350	368	5	742	954	29	386
Control							
Public	240	258	8	627	839	34	308
Private	110	110	0	115	115	0	957
Geographic Locale							
Outer city	303	321	6	596	808	36	397
Rural	47	47	0	146	146	0	322

In the above table, the mismatch between space and enrollment expansion is apparent, particularly in view of the widely divergent NASF per student figures displayed. It should be recognized, however, that the basic curriculum content of a 2-year medical program lends itself to joint-usage of facilities, so that we may expect the NASF per student figures of publicly-controlled schools to be well below those for private schools. It might also be noted that 21,000 NASF of remodeling, and 122,000 NASF of construction are planned (by the publicly controlled schools) for completion by 1983--in addition to the activity reported above. The primary purpose of these programs will be overcrowding relief.

III. SCHOOLS OF OPTOMETRY

A. INTRODUCTION

The four year professional curriculum at schools of optometry is, in general, divided between basic science instruction in the first two years and clinical science instruction, including patient contact, in the last two years. There is, however, a trend in optometry curricula toward earlier exposure to patients. General areas stressed during the basic science phase of instruction are bio-medical courses, pharmacology, behavioral sciences, optics, and physics. Specialized laboratory facilities are required to teach many of the courses in the first two years of the curriculum. Approximately half of the schools of optometry are located on campuses with schools of medicine so some level of joint-use of space is possible.

The primary clinical learning space is the optometric examining room. The typical exam room contains all equipment needed for most types of patient visits, including chair, phoropter, and a bio-microscope. These rooms often also provide space for an optometric technician. In this way, the technicians receive their clinical training from the schools of optometry and the optometry student is exposed to four-handed optometry. Most of the exam rooms used by schools of optometry are part of the physical plant of the school. In addition, however, all schools have some clinical community outreach programs which typically do not involve facilities controlled by the school. Consequently, many of these facilities were not reported by the schools.

In addition to the undergraduate programs at the schools of optometry, most of the schools have Master of Science programs in clinical specialties and five schools have Ph.D. programs in physiologic optics. Due to the lack of clearly defined alternate types of curricula, the researchers did not attempt to analyze the data on the basis of curriculum type.

On the other hand, size categories were assigned using the following frequency distribution of enrollment levels: the schools reporting 0-200 students were categorized as small; while schools with 201-400 students and above 400 students were categorized as "medium" and "large" schools, respectively. Table

3.III.1 below indicates this parameterization, as well as those of control, locale, and census region, for the respondents used in the analysis to follow.

TABLE 3.III.1

OPTOMETRY SCHOOLS' RESPONSE RATE DERIVATION

SCHOOLS OF: OPTOMETRY	NUMBER OF SCHOOLS IN UNIVERSE	NON-RESPONDENT			RESPONDENTS (NO. 1 - NO.2)	NEW SCHOOLS RESPONDING	ESTABLISHED RESPONDENTS (#3-#4)	NON-SUBSTANTIVE FORMS ESTAB. SCHOOLS	RESPONSES USED IN ANALYSIS (#5-#6)	ANALYZED SCHOOLS AS A % OF ESTABLISHED UNIVERSE (7/(1-2a-4))
		NEW SCHOOLS	ESTABLISHED SCHOOLS	TOTAL (#2a+ #2b)						
	#1	#2a	#2b	#2c	#3	#4	#5	#6	#7	#8
TOTAL	12	0	2	2	10	1	9	0	9	82
Large	3	0	0	0	3	0	3	0	3	100
Medium	6	0	2	2	4	0	4	0	4	67
Small	3	0	0	0	3	1	2	0	2	100
Public	6	0	1	1	5	1	4	0	4	80
Private	6	0	1	1	5	0	5	0	5	83
Innercity									4	
Outercity									5	
Suburban									0	
Rural									0	
Classical										
Revised										
Northeast	3	0	0	0	3	1	2	0	2	100
Northcentral	3	0	1	1	2	0	2	0	2	67
South	3	0	0	0	3	0	3	0	3	100
West	3	0	1	1	2	0	2	0	2	67

The one new school of optometry in the nation perceived a need for 4,000 NASF of nonclinical instruction facilities in addition to the 18,000 rented NASF, all in satisfactory condition, reported as "controlled" as of the survey date. This school indicated an enrollment level (as of fall, 1973) of 42 undergraduate and 7 graduate students, a population projected to grow to 272 by 1983.

B. INVENTORY OF NONCLINICAL INSTRUCTION FACILITIES CONTROLLED BY RESPONDENTS--FALL, 1973

1. Description

The nine degree-granting respondent schools of optometry reported ownership of 570,000 Gross Square Feet (358,000 NASF) of nonclinical instruction facilities as of the survey date. To better assure comparability of NASF among the respondents, the room-type categories of "on-site patient care" and "other" have been excluded from the subsequent discussion: the former due to respondents' various interpretations of "on-site"; and the latter due to the wide mix of facilities it represents. (Table 3.III.2 derives the 226,000 NASF subset of facilities used in the remainder of this chapter.)

TABLE 3.III.2

OPTOMETRY SCHOOLS' INVENTORY OF ALLOCATED NON-CLINICAL INSTRUCTION FACILITIES

FALL, 1973

	NUMBER OF SCHOOLS	ALLOCATED NASF (000)	ON-SITE PATIENT CARE AND OTHER (000)	NASF USED IN ANALYSIS (000)	AVERAGE INVENTORY (000 NASF)
TOTAL	9	358	132	226	25
Size of School					
Large	3	184	62	122	41
Medium	4	136	58	78	20
Small	2	38	12	26	13
Control					
Public	4	93	43	50	13
Private	5	265	89	176	35
Geographic Locale					
Innercity	4	172	72	100	25
Outercity	5	186	60	126	25
Census Region					
Northeast	2	87	20	67	34
Northcentral	2	103	53	50	25
South	3	92	32	60	20
West	2	76	27	49	25

As is seen in Table 3.III.2, inventory sizes per school ranged from 47,000 down to 10,000 NASF, with all the facilities owned or leased on a very long-term basis.

Five of the 9 respondents were privately controlled. Of the slightly under 230 thousand NASF of nonclinical instruction facilities reported, 180 thousand were reported by these 5 private schools, 50 thousand by the 4 in the public sector. As in the case of the other professions, we hypothesize that this tendency toward slightly smaller facilities configurations in the public sector was due in part to the greater availability of "joint-use" facilities in the multi-school setting of the state or city-university campus.

Optometry schools utilized nearly half their allocated (controlled) space for classroom/laboratory instruction, and another fourth for faculty and administration. Notwithstanding the very small sample size involved, this profile was relatively constant for the 3 size and 2 locale groupings used in the analysis (see Table 3.III.3).

TABLE 3.III.3

SPACE DISTRIBUTION PROFILE OF OPTOMETRY SCHOOLS' NONCLINICAL INSTRUCTION FACILITIES, FALL, 1973

	THOUSANDS OF NASF	PERCENTAGE
Classrooms	35	15.5
Class Laboratories	73	32.3
Research and Research Training	29	12.8
Library	26	11.5
Auditoria	4	1.8
Faculty Offices	30	13.3
Administrative Areas	29	12.8
Animal Facilities	1	.4
TOTAL	227*	100.0

* The sum of the parts is slightly greater than the whole (226,000 NASF) due to rounding error.

NASF per station and per room for six types of space are reported in Table 3.III.4.

TABLE 3.III.4

NASF PER ROOM AND STATION, SCHOOLS OF OPTOMETRY, FALL, 1973

	NUMBER OF NASF (000)	NUMBER OF ROOMS	NUMBER OF STUDENT STATIONS	NASF PER ROOM	NASF PER STATION
Classrooms	35	34	2,454	1,061	14
Class Laboratories	73	107	1,385	682	53
Research and Research Training	29	93	259	312	104
Library	26	--	469	--	55
Auditoria	4	1	300	4,000	13
Faculty Offices	30	170	--	153	--

Optometry schools reported that more than half their class laboratories were special purpose in nature (58 of 107). In no instance was any class laboratory larger than 32 stations: and, in fact, 27 of the 49 general purpose labs and 45 of the 58 special purpose labs were in the 1 - 16 station size category. With one major exception, the classrooms were equally distributed among all size categories defined by the instrument.

TABLE 3.III.5

NUMBER OF CLASSROOMS AND LABORATORIES IN EACH STATION-SIZE CATEGORY

	1 - 16 STATIONS	17 - 32 STATIONS	33 - 64 STATIONS	65 - 128 STATIONS	ABOVE 128 STATIONS	TOTAL
Classrooms and Auditoria	6	5	5	15	4	35
Class Laboratories	27	22	0	0	0	49
Special Purpose Labs.	45	13	0	0	0	58

2. The Student Population Using the Current Inventory

Respondents reported that as of the start of academic year 1973, the total FTE enrollment of undergraduate and graduate students was 2,781. The largest school in our sample reported 6 times the enrollment exhibited by the smallest: 530 versus 87 FTE students. There were nearly 3 times the number of students reported by the private sector as by the public schools, with all of the graduate students reported by the publicly controlled schools. Nearly half of the nation's optometry students were located in innercity locales with the remainder in outercity settings.

TABLE 3.III.6

FTE ENROLLMENT IN OPTOMETRY SCHOOLS--FALL, 1973

	NUMBER OF SCHOOLS	FTE UNDER-GRADUATE	FTE GRADUATE	FTE TOTAL	FTE PER SCHOOL
TOTAL	9	2,760	21	2,781	309
Size of School					
Large	3	1,495	0	1,495	498
Medium	4	1,009	6	1,015	254
Small	2	256	15	271	136
Control					
Public	4	720	21	741	185
Private	5	2,040	0	2,040	408
Geographic Locale					
Innercity	4	1,305	6	1,311	328
Outercity	5	1,455	15	1,470	294✓
Census Region					
Northeast	2	776	0	776	388
Northcentral	2	703	6	709	355
South	3	852	0	852	284
West	2	429	15	444	222

3. Adequacy of the Inventory as of Fall, 1973

a. Condition

Just under 89% of the optometry schools' non-clinical instruction facilities were reported to be "satisfactory for program purposes"; of the remaining 25,000 NASF, 60% (15,000 NASF) were perceived to require replacement (prior to the ameliorating effects of current construction programs). One respondent indicated that his entire facility required replacement, while four others indicated "100% satisfactory" condition. On a percentage basis, the public schools were in much less "satisfactory" condition (65%) than were the privately controlled schools (93%). Analysis of the condition of space by room type shows that 40% of the public schools' administrative office space was not considered satisfactory; while classrooms and faculty offices are at or below the "75% satisfactory" level (see Figure 3.III.B). None of the 1,000 NASF of animal facilities was reported to be "satisfactory".

FIGURE 3.III.A

OPTOMETRY SCHOOLS' PERCEIVED CONDITION OF SPACE, FALL, 1973

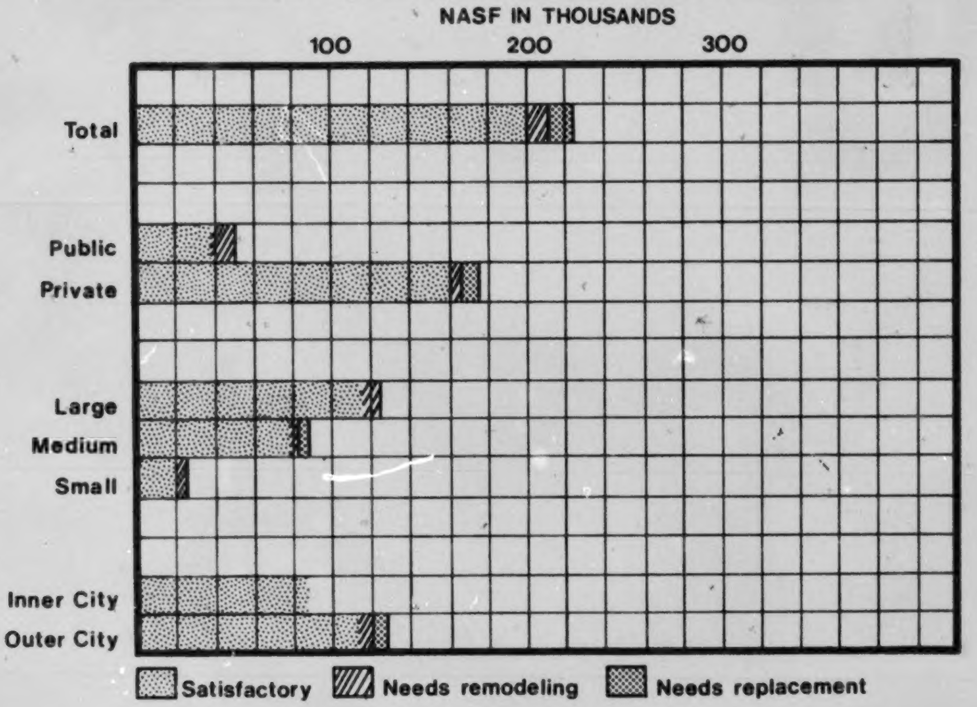
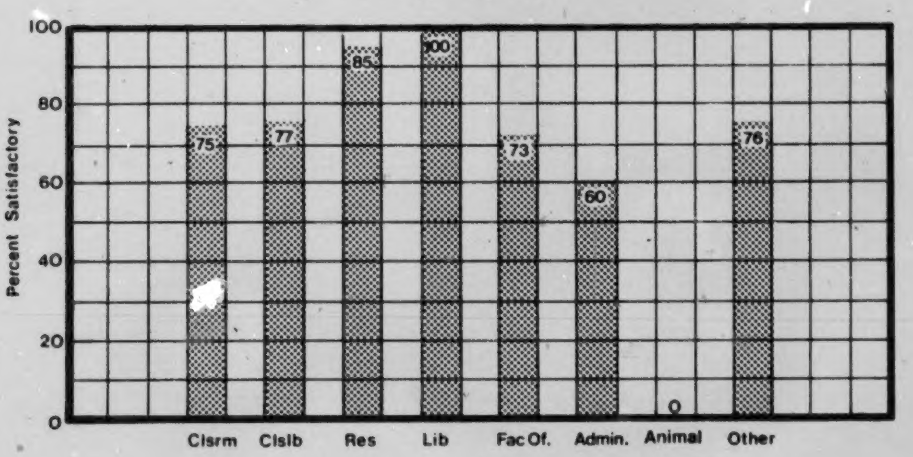


FIGURE 3.III.B

PUBLICLY CONTROLLED OPTOMETRY SCHOOLS' DISTRIBUTION PROFILE OF SATISFACTORY SPACE, FALL, 1973



b. Needs for Nonclinical Facilities as of Fall, 1973

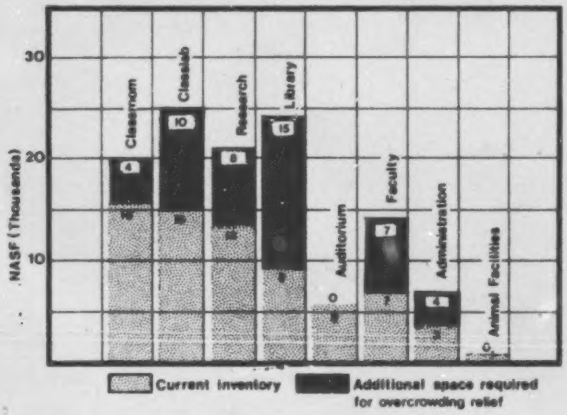
Since only one construction program was in progress as of the survey date, and since it did not impact nonclinical instruction facilities needs as reported, respondents' perceptions of the then-existing need for space give us an accurate insight into "today's" perceived need and, indeed, the facilities configuration felt by respondents to be necessary for satisfactorily accommodating the given optometry student enrollment level.

In all, 6 of the 9 schools reported a need for 69,000 new NASF. This need, 31% overall when expressed as a percentage of the inventory as of the survey date, is primarily attributable to the "medium-sized" schools in the public sector.

A considerable portion (48,000 NASF) of the expressed need was due to overcrowding. Figure 3.III.C depicts this situation on a room-type by room-type basis, for those schools expressing a need. It is notable that of the 21,000 NASF reported as needed due to their being "missing from the inventory", 9,000 NASF were for research and research training space. Also, although no library facilities were controlled by the respondents reporting a need, none were perceived as needed by those respondents.

FIGURE 3.III.C

COMPARISON OF OPTOMETRY SCHOOLS' FALL, 1973 INVENTORY WITH NASF PERCEIVED AS NEEDED FOR OVERCROWDING RELIEF



Large schools reported a "target" NASF per student figure of 84, a very slight increase from the 82 reported as of the survey date. It is primarily the small and medium-sized schools whose "targeted" figures show a substantial increase, as is seen in Table 3.III.7. Also, the schools in the public sector reported the bulk of the needed facilities (59 NASF per student); while the NASF per student in the private sector would increase by 13. The major change would occur in research and research training space, bringing the NASF per student from 18 to 34. (Notably, the corresponding figure for private schools would not change at all -- remaining at 8 NASF per student.)

TABLE 3.III.7

FALL, 1973 VERSUS "TARGET"* NASF PER STUDENT

	FALL 1973	PERCEIVED NEEDS = TARGET*	INCREASE	% INCREASE
TOTAL	81	106	25	31
Size of School				
Large	82	84	2	2
Medium	77	129	42	55
Small	96	140	44	46
Control				
Public	67	126	59	88
Private	86	99	13	15
Geographic Locale				
Innercity	76	92	16	21
Outercity	86	118	32	37
Census Region				
Northeast	86	107	21	24
Northcentral	71	100	29	41
South	70	87	17	24
West	110	151	41	37

* "Target" is defined as NASF available plus NASF perceived as needed.

When these needs are analyzed on a per-student basis, the perceived need represents large percentage changes in certain room-types. Thus, for example, it was desired that library space per student be increased by 67% from 9 to 15. Moreover, auditorium facilities show a desired factor of four increase, from 1 to 4 NASF per student (see Table 3.III.8).

TABLE 3.III.8

DESIRED CHANGES IN NASF PER STUDENT--BY ROOM-TYPE

	NASF PER STUDENT, FALL, 1973	DESIRED NASF PER STUDENT AS OF FALL, 1973	DIFFERENCE	PERCENT
TOTAL	81	106	25	31
Classroom	13	16	3	23
Class Laboratory	26	31	5	19
Research and Research Training	10	15	5	50
Library	9	15	6	67
Auditoria	1	4	3	300
Faculty Offices	11	13	2	18
Administrative Areas	10	12	2	20
Animal Facilities	0	1	1	--

Five of the 7 respondents who answered the appropriate question indicated some degree of overcrowding in their existing library space. Three of the five were publicly controlled. Recalling that schools of optometry reported the lowest per-station NASF figure of all the professions, the responses here are not surprising.

All nine respondent schools of optometry reported one or more needs (as constrained by the survey instrument) for satisfactorily accommodating their Fall, 1973 enrollment. Mentioned by all schools were the needs for operating funds ($3.1 million) and support staff; with eight schools expressing a need for 88 additional teaching faculty and over $1 million in equipment. Four schools indicated the need for an additional 112 examining and treatment rooms. On the issue of nonclinical instruction facilities, the most commonly reported need (6 schools) was for research and research training space, with four public and two private schools reporting nearly equivalent perceived needs of 13 and 11 thousand NASF respectively.

TABLE 3.III.9

NON-FACILITIES NEEDS FOR ACCOMMODATING FALL, 1973 ENROLLMENT

	FACULTY (FTE)	SUPPORT STAFF (FTE)	YEARLY OPERATING FUNDS ($000)	FUNDS FOR NEW EQUIPMENT ($000)	EXAMINING AND TREATMENT ROOMS
TOTAL	88	65	3,120	1,034	112
Size of School					
Large	27	20	663	336	0
Medium	44	37	2,207	538	29
Small	17	8	250	160	83
Control					
Public	31	22	565	394	109
Private	57	43	2,555	640	3

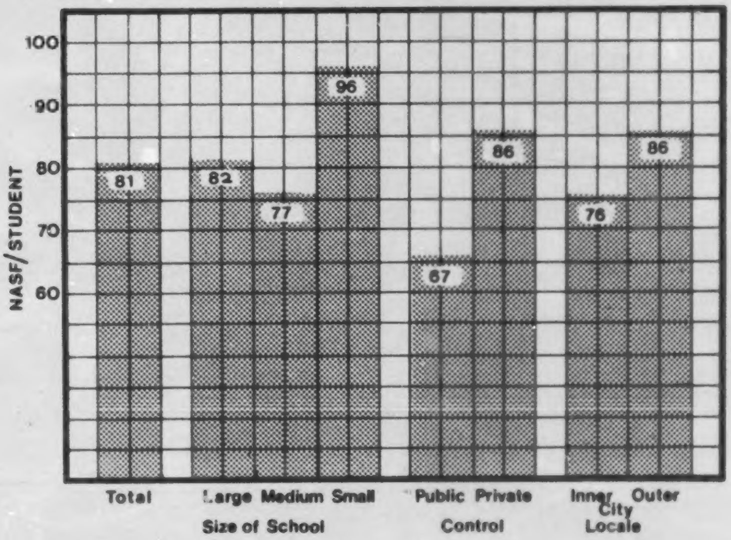
4. Usage of Resources

a. Space and Stations Available Per Student

As may be seen in Figure 3.III.D, the 9 respondent schools of optometry indicated an overall average NASF per student of 81, ranging from 40 to 131. Small schools averaged 96 NASF per student, while the schools in the "large" and "medium" categories reported averages of 82 and 77 NASF, respectively.

FIGURE 3.III.D

NASF PER STUDENT IN OPTOMETRY SCHOOLS, FALL, 1973



Schools in the private sector reported 28% more NASF per student than those in the public sector. Since later discussion will show that optometry students in the public sector are, indeed, significant users of "joint-use space", and since classroom and laboratory facilities tend to be such a large portion of the optometry schools' distribution profile, the 28% difference is not unreasonable.

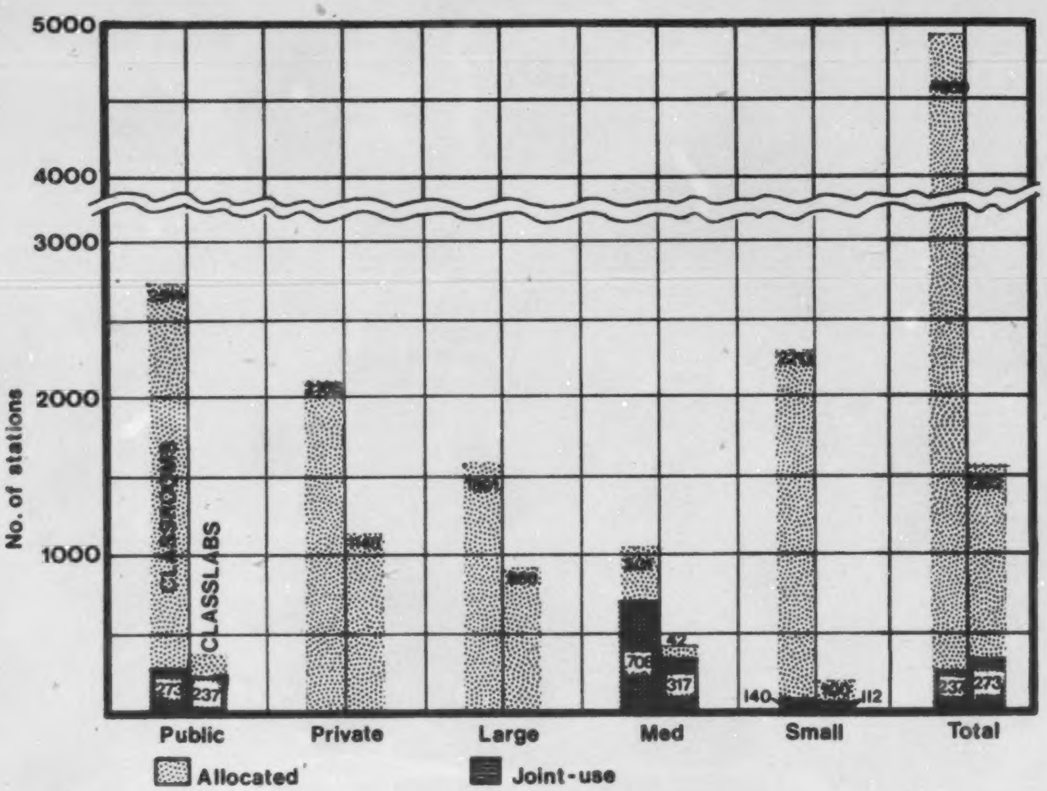
Small sample sizes prevent the relationships noted above from holding for each of the eight room types under consideration. For example, only one (large) school reported an auditorium; only small schools controlled animal facilities; and classroom NASF per student tended to decrease with decreasing size of school. Furthermore, although, on the average, the private schools reported more space per student than the public schools, the latter reported nearly twice the amounts reported by the former for research and research training space, and faculty offices.

On a school-by-school basis, classroom stations per student averaged .88, with a high of 1.22 and a low of .43. Class laboratory figures were, in the aggregate, about half those of classrooms (.46 stations per student), with this ratio essentially maintained in both the public and private sectors -- even though the privately controlled schools reported nearly twice the stations per student reported by their public counterparts.

In addition to the 2,450 classroom stations whose use was controlled by respondents, 2,500 stations, primarily in large rooms, were available on a joint-use basis through either a "parent institution" or another health profession school "on campus". Only publicly controlled schools reported the availability of such resources, as might be anticipated from a variety of prior comments. A number of small class laboratories were also available to only the public schools (134 stations), and in the cases of both classrooms and laboratories, the small schools were the prime beneficiaries of these facilities (see Figure 3.III.E).

FIGURE 3.III.E

OPTOMETRY SCHOOLS' "ALLOCATED" AND "JOINT-USE" STUDENT STATIONS



b. Usage of Classrooms and Class Laboratories

Thirty-seven percent of respondents' classroom space was primarily devoted to instruction in the basic biological sciences, with 51% of the space devoted to instruction in the clinical sciences, and the remaining 12% of mixed usage. With a similar percentage of "mixed" usage (13%), class laboratories showed a reverse split between basic biological and clinical sciences instruction, 47% and 40%, respectively.

On average, schools of optometry appear more classroom-oriented than oriented toward class laboratories as seen in Table. 3.III.10.

TABLE 3.III.10

MEAN NUMBER OF HOURS OF USAGE, OPTOMETRY SCHOOLS' CLASSROOMS AND CLASS LABORATORIES

	MEAN HOURS OF CLASSROOM USAGE	MEAN HOURS OF CLASS LABORATORY USAGE	MEAN HOURS OF SPECIAL-PURPOSE LAB USAGE
TOTAL	834	287	252
Size of School			
Large	877	152	162
Medium	836	331	434
Small	673	532	336
Control			
Public	1,002	533	400
Private	784	224	191
Geographic Locale			
Innercity	999	176	142
Outercity	638	384	497

The mean usage of classrooms was 834 hours per classroom per year, with class laboratories reported at between 250 and 300 hours per year (although the latter figures are felt to be spuriously low for reasons to be discussed later). Schools in the public sector tended to use their classrooms (of all sizes) more heavily than those in the private sector, and, as has previously been noted, this classroom training tended to be conducted in facilities designed for large groups.

The above findings are put on a "normalized" basis by computing "room utilization" which, in brief, is obtained by dividing the number of room hours used by the number "available" as shown in the formula below:

$$\frac{\text{Total room-hours used}}{\text{2080 X Number of rooms}} \text{ X } 100\% = \%\text{ room utilization.}$$

The hour figure in the denominator is an estimate of each room's availability for use, assuming a 2,080 hour year. The numerator is corrected for joint-usage (see Appendix G for details of the method) by adding non-optometry students' usage of the optometry schools' rooms. Keeping in mind the caveats of PART 1 and the fact that while a 2,080 hour year allows comparability but reduces the absolute magnitudes of the utilization percentages, it is suggested that the subsequent discussion be considered in that proper framework.

Room utilization averaged 40% for the optometry schools' classrooms, over three times the average for class laboratories (13%). As may be seen below, publicly-controlled schools tended toward approximately 25% greater classroom utilization and 100% greater class laboratory utilization than did schools in the private sector, according to the computational procedure described above.

TABLE 3.III.11
OPTOMETRY SCHOOLS' ROOM UTILIZATION RATES--FALL, 1973

TABLE 3.III.11
OPTOMETRY SCHOOLS' ROOM UTILIZATION RATES--FALL, 1973

	TOTAL AVAILABLE ROOM HOURS PER 2,080 HOUR YEAR		ROOM HOURS USED PER YEAR		ROOM UTILIZATION PERCENTAGE	
	CLASSROOMS	LABORATORIES	CLASSROOMS	LABORATORIES	CLASSROOMS	LABORATORIES
TOTAL	72,800	222,560	29,176	28,697	40	13
Size of School						
Large	37,440	120,640	15,784	9,207	42	8
Medium	24,960	83,200	10,028	15,094	40	18
Small	10,400	18,720	3,364	4,396	33	23
Control						
Public	16,640	56,160	8,016	12,134	48	22
Private	56,160	166,400	21,160	16,563	38	10
Geographic Locale						
Innercity	39,520	131,040	18,972	9,750	48	7
Outercity	33,280	91,520	10,204	18,947	31	21

Room-use data for class laboratories in schools of optometry should be treated with caution in view of non-correctable errors found in the data for individual schools. When student station utilization figures were compared with room-use percentages, the latter were often smaller than the former -- a situation which, in theory, should not occur. While certain types of corrections appeared obvious, they were not made failing confirmation from the respondents involved.

Classroom and class laboratory station utilization figures are displayed in Table 3.III.12. The overall average station utilization rates (occupancy rates) were both 22%, ranging as high as 90% for an individual school. In line with their respective room use percentages, schools in the public sector showed somewhat greater station utilization (both classroom and laboratory) than those in the private sector; while those schools characterized as "outercity" reported significantly higher classroom occupancy rates than the "innercity" schools. A comparison of room use and occupancy rates implies that when used, the typically large classrooms were not filled -- and should optometry schools tend to move toward smaller group instruction within current facilities, then average occupancy rates would reduce still further.

TABLE 3.III.12

OPTOMETRY SCHOOLS' STATION UTILIZATION (OCCUPANCY) RATES--FALL, 1973

	TOTAL AVAILABLE STATION HOURS PER 2,080 HOUR YEAR (000)		STATION HOURS USED PER YEAR (000)		STUDENT STATION UTILIZATION PERCENTAGE	
	CLASSROOMS	LABORATORIES	CLASSROOMS	LABORATORIES	CLASSROOMS	LABORATORIES
TOTAL	4,270	2,205	1,213	633	22	22
Size of School						
Large	2,645	1,499	669	283	20	14
Medium	1,326	519	441	273	25	40
Small	298	186	104	77	27	31
Control						
Public	820	435	316	242	34	46
Private	3,449	1,769	897	391	20	16
Geographic Locale						
Innercity	2,596	1,181	561	331	19	24
Outercity	1,673	1,024	652	302	27	20

Patterns in the student station utilization (occupancy) figures for class laboratories tended to parallel the equivalent figures for classrooms, although fluctuations from group to group (e.g., public versus private) were larger. Occupancy rates were much lower for the larger schools than for the medium or smaller ones, and the private sector (composed, as previously noted, essentially of large schools) thus showed a much lower rate than the publicly controlled schools.

c. Faculty Office Usage

When the total NASF of faculty office space is compared with the full-time-equivalent teaching faculty, the NASF per faculty member is computed to be almost exactly 100. As may be seen in the table below, this measure increases with decreasing school size, and increases as we move away from inner-city locales.

TABLE 3.III.13

NASF OF FACULTY OFFICE SPACE PER FACULTY MEMBER

SCHOOLS OF OPTOMETRY, FALL, 1973

	NUMBER OF SCHOOLS	NASF (000) OF OFFICE SPACE	NUMBER OF FTE FACULTY	NASF/FACULTY
TOTAL	9	30	299	100
Size of School				
Large	3	11	121	91
Medium	4	13	124	105
Small	2	6	54	111
Control				
Public	4	11	118	93
Private	5	19	181	105
Geographic Locale				
Innercity	4	12	130	92
Outercity	5	18	169	107

d. Joint-Utilization of Classrooms and Class Laboratories

Negligible classroom and class laboratory hours were offered by schools of optometry to students of other disciplines. On the other hand, and as noted previously, publicly controlled optometry schools had access to significant "joint-use" classroom facilities, and, to a much lesser extent, class laboratories. As a percentage of their hours of usage of "allocated" classrooms, the public schools reported 56% usage of joint-use space (14% for class laboratories).

C. ONGOING CONSTRUCTION AND REMODELING AS OF FALL, 1973--AND THE POST-CONSTRUCTION INVENTORY

Only one optometry school reported a construction program, and detailed analysis of perceived trends and effects is thus precluded. In brief, the program involved the new construction of some 71,000 GSF, at a cost of $4.5 million dollars. The respondent involved, a small, publicly controlled school in an innercity locale, indicated that the primary purpose of the effort was enrollment expansion, with 7,000 NASF for replacement purposes. The program furthermore represents a 25,000 NASF addition to respondent's nonclinical instruction facilities, exclusive of "on-site patient care" and "other" facilities. We would estimate that the above construction program would reduce, by 7,000 NASF, the 25,000 NASF replacement need perceived by all respondents as of the fall, 1973.

Associated not only with the new construction program, but with the individual plans of other respondents, FTE enrollment was expected to increase by 5% (from 2,781 to 2,915) in the "post-construction period". As would be anticipated from the foregoing discussion, most of this enrollment growth is expected to occur at the institution reporting the construction program -- such that for "small" schools as a group, the enrollment increase would be 34%, from 271 to 364 FTE students.

D. THE 1983 LOOK AHEAD

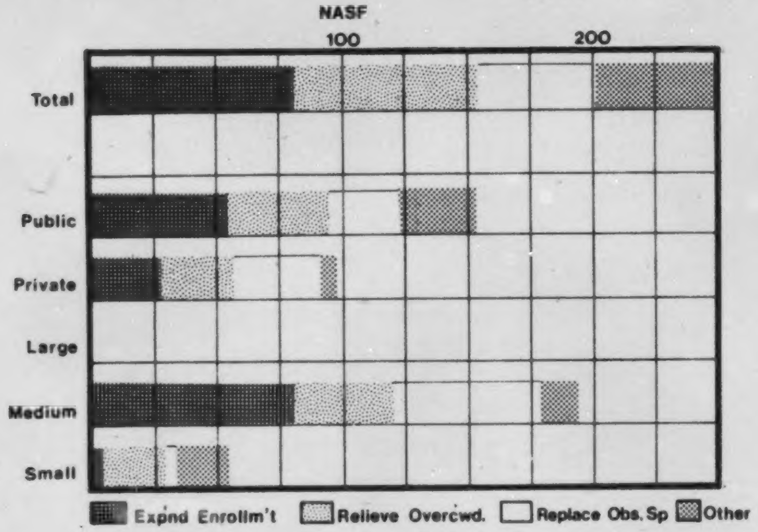
Five of the respondent optometry schools indicated plans for the construction of 250,000 NASF of facilities through the fall of 1983. These programs ranged in size from 6,000 to 96,000 NASF, and would serve to approximately double the inventory as of the Fall, 1973. Thirty-nine thousand NASF of major remodeling were also reported as in the planning stages.

All of the planned effort was reported by medium and smaller-sized schools; and due to their preponderance in the public sector, the latter would exhibit half again as much construction as the private schools, and all of the remodeling activity. In a similar vein, only one inner-city school reported planned construction or remodeling, so that 88% of the activity was projected for the schools in outer-city locales.

Expansion of enrollment and replacement of obsolete facilities were seen to be the primary purposes of medium-sized schools' planned construction, while overcrowding relief was the priority item for the smaller schools. In spite of the small sample sizes involved, public and private schools showed reasonably similar patterns with respect to construction purposes (see Figure 3.III.F).

FIGURE 3.III.F

OPTOMETRY SCHOOLS PERCEIVED PURPOSES OF CONSTRUCTION PLANNED THROUGH 1983



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Concomitant with the projected large percentage increase in physical plant, it was anticipated that enrollment (headcount) would increase by 32% over 1973 figures, with the bulk of this growth in publicly controlled schools (see Table 3.III.14).

TABLE 3.III.14

PROJECTED ENROLLMENT GROWTH IN SCHOOLS OF OPTOMETRY, 1973-1983

	NUMBER OF SCHOOLS	1973 HEADCOUNT	POST-CONSTRUCTION HEADCOUNT	POST-CONSTRUCTION % INCREASE OVER 1973	1983 HEADCOUNT	1983 % INCREASE OVER 1973
TOTAL	9	2,835	2,963	5	3,735	32
Size of School						
Large	3	1,501	1,530	2	1,723	15
Medium	4	1,017	1,023	0	1,530	50
Small	2	317	410	29	482	52
Control						
Public	4	789	888	13	1,221	55
Private	5	2,046	2,075	1	2,514	23
Geographic Locale						
Innercity	4	1,319	1,447	10	1,549	17
Outercity	5	1,516	1,516	0	2,186	44

* For purposes of this table, enrollment is defined as the sum of graduate and undergraduate headcount, as 1983 FTE data were not requested.

In sum, the relative stability of the optometry schools' space and enrollment on or about the survey date is expected to be replaced by a period of growth in both facilities and enrollment level about the turn of the current decade. The impact on the match between facilities and enrollment may be seen in Table 3.III.15. In this table, the NASF used includes "on-site patient care" and "other" facilities for purposes of comparability with 1983 data, in which no room-type distinctions were made.

TABLE 3.III.15

CHANGES IN NASF PER STUDENT--1973-1983

	NASF (000) 1973	NASF (000) "POST-CONSTRUCTION	NASF (000) 1983	NASF/STUDENT 1973	NASF/STUDENT "POST-CONSTRUCTION	NASF/STUDENT 1983
TOTAL	358	441	673	126	149	180
Size of School						
Large	184	231	231	123	151	134
Medium	136	136	309	134	133	202
Small	38	74	133	120	180	276
Control						
Public	93	129	284	118	145	233
Private	265	312	389	130	150	155
Geographic Locale						
Innercity	172	208	261	130	144	168
Outercity	186	233	412	123	154	188

The growth in facilities is wholly due to the projected plans of smaller and "medium-sized" schools, with the small schools exhibiting the greatest growth in both total NASF and NASF per student.

E. INSTRUCTIONAL FACILITIES IN CLINICAL AREAS

1. Clinical Facilities

The primary use made of osteopathy schools' clinical affiliates was that of training through contact with outpatients. Thus, with schools in the public sector indicating no usage of affiliates, the five private schools reported eight clinics used as major components in the training program. These clinics contained 253 patient stations in 76 examining and treatment rooms, with an estimated "traffic" for teaching purposes of 55.5 thousand outpatient visits per year. Most of the above resources were associated with the six clinics in innercity locales: and it was primarily the large schools which make use of them (3/4 of the patient stations and 61% of the patient visits).

It was, however, not these clinics which supplied the bulk of the resources for optometry students' clinical learning experiences, but the ambulatory facilities which are an integral part of most optometry schools' physical facilities. Representing 327 examining and treatment rooms, 440 patient stations, and over 172,000 patient visits per year, all schools but one (in the public sector) reported such facilities. Again, the bulk of the patients were from innercity locales (83% of the patient visits), and were split almost evenly between the public and private schools.

Taken *in toto*, these clinical resources represented the majority of that which was used in the training of optometry students, and it is of interest to scale them to per student and per station bases. Recognizing the risk, particularly in the context of optometry, of double-counting patient visits in some instances, and under the assumption that the amount and timing of clinical training was essentially similar from school to school, we have constructed Table 3.III.16.

TABLE 3.III.16

OPTOMETRY SCHOOLS' AVAILABILITY OF CLINICAL MATERIAL

	NUMBER OF CLINICS	OUTPATIENT VISITS PER YEAR	PATIENT STATIONS	VISITS PER STATION	FTE ENROLLMENT	STATIONS* PER STUDENT	VISITS* PER STUDENT
TOTAL	16	227,663	695	328	2,781	.25	82
Size of School							
Large	8	121,041	366	331	1,495	.24	81
Medium	6	100,571	267	377	1,015	.26	99
Small	2	6,051	62	98	271	.23	22
Control							
Public	4	81,322	180	452	741	.24	110
Private	12	146,341	515	284	2,040	.25	72
Geographic Locale							
Innercity	10	182,461	477	383	1,311	.36	139
Outercity	6	45,122	217	208	1,470	.15	31

* Only the third and fourth year students typically deal with patients: these figures are based on total FTE enrollment, and will thus appear low.

As can be seen in Table 3.III.16, neither size nor control of school affected the ratios of ambulatory patient stations per student. On the other hand, outpatient visits per student were greatly affected by size and control of school. It also appears that innercity schools had access to much more clinical material on a per student basis than did outercity schools.

2. Nonclinical Instruction Facilities in Clinical Areas

Schools of optometry utilized "nonclinical instruction facilities in clinical areas" to a very limited degree: only five clinics were reported (all by the private sector), and in the aggregate they made 7,000 NASF available. All of this space was considered to be "satisfactory" by respondents.

Actually, very little such space was perceived as needed by the optometry schools, although the need represented a large portion of that space available for use as of fall, 1973: two schools (both private) expressed a need for 5,000 NASF of additional instructional space in clinical areas.

Although, as of the survey date, the schools of optometry reported no ongoing construction or remodeling of nonclinical instruction facilities in clinical areas, one of the respondent clinics did plan such a program by 1983. Involving some 140,000 NASF, this construction program would provide some amount of space for nonclinical instruction, although it was not possible to tell how much.

IV. SCHOOLS OF OSTEOPATHY

A. INTRODUCTION

Schools of osteopathy, like medical schools, perform three major functions: education, patient care, and advancement of knowledge through research. The degree of emphasis placed on each of these functions is the dominant factor which determines the amount and type of space needed by a given osteopathy school. Schools of osteopathy emphasize the development of skills needed to provide primary care services and therefore would be expected to need access to a relatively large amount of ambulatory care teaching space and relatively less research and research training space.

Another characteristic of schools of osteopathy which bears on their facilities configurations is the fact that most are private, non-profit, free standing institutions and thus have little if any access to joint-use facilities.

Of the total of eight schools of osteopathy, only five are included in the general reporting and analysis which follow. One school did not respond, and a second submitted incomplete data which could not be used. In addition, a new school was excluded from the general reporting because full data could not be supplied.

The survey response rate is derived in Table 3.IV.1. The large, medium, and small size categories refer to schools accommodating "above 450", "301-450", and "0-300" full-time equivalent students respectively.

That which follows is, due to the small number of schools of osteopathy in the nation, more expository than analytical. It is hoped, however, that the exposition and occasional analysis will give added insight into the status of facilities used by schools of osteopathy.

TABLE 3.IV.1

DERIVATION OF RESPONSE RATE FOR OSTEOPATHY SCHOOLS

SCHOOLS OF: OSTEOPATHY	NUMBER OF SCHOOLS IN UNIVERSE	NON-RESPONDENT			RESPONDENTS (NO. 1 - NO.2)	NEW SCHOOLS RESPONDING	ESTABLISHED RESPONDENTS (#3-#4)	NON-SUBSTANTIVE FORMS ESTAB. SCHOOLS	RESPONSES USED IN ANALYSIS (#5-#6)	ANALYZED SCHOOLS AS A % OF ESTABLISHED UNIVERSE (7/(1-2a-4))
		NEW SCHOOLS	ESTABLISHED SCHOOLS	TOTAL (#2a+ #2b)						
	#1	#2a	#2b	#2c	#3	#4	#5	#6	#7	#8
TOTAL	8	1	0	1	7	1	6	1	5	83
Large	2	0	0	0	2	0	2	1	1	50
Medium	3	0	0	0	3	0	3	0	3	100
Small	3	1	0	1	2	1	1	0	1	100
Public	1	0	0	0	1	0	1	0	1	100
Private	7	1	0	1	6	1	5	1	4	100
Innercity									1	
Outercity									3	
Suburban									0	
Rural									1	
Classical									3	
Revised									2	
Northeast	1	0	0	0	1	0	1	1	0	0
Northcentral	5	0	0	0	5	0	5	0	5	100
South	2	1	0	1	1	1	0	0	0	0
West	0	0	0	0	0	0	0	0	0	0

* Small = 0-300; medium = 301-450; large = above 450.

B. INVENTORY OF NONCLINICAL FACILITIES CONTROLLED BY RESPONDENTS--FALL, 1973

1. Description of Facilities

The five degree-granting respondent schools of osteopathy reported owning 698,000 Gross Square Feet (GSF) or 571,000 Net Assignable Square Feet (NASF) of nonclinical instruction facilities as of the survey date. To better assure comparability of NASF figures among the schools, the analysis henceforth excludes "on-site patient care" and "other" facilities in view of their different handling by and meaning to various respondents. Table 3.IV.2 displays how the 226,000 NASF of nonclinical instruction space used in this analysis was derived. Inventory sizes per school ranged from 29,000 to 57,000 NASF, with all the facilities owned or leased on a very long-term basis.

TABLE 3.IV.2
OSTEOPATHY SCHOOLS' INVENTORY OF ALLOCATED NONCLINICAL INSTRUCTION FACILITIES
FALL, 1973

1.	Number of schools	5
2.	Owned GSF*	698
3.	Owned NASF*	571
4.	Rented/leased NASF	0
5.	Total (owned or rented) NASF, "on-site patient care" and "other"	245
6.	Total NASF of nonclinical instruction space	226

* All GSF and NASF figures are in thousands.

Osteopathy schools utilized about one-third of their "allocated" (controlled) space for classroom/laboratory instruction, and somewhat more than a third for faculty offices and administrative areas (see Table 3.IV.3).

TABLE 3.IV.3

SPACE DISTRIBUTION PROFILE OF OSTEOPATHY SCHOOLS' NONCLINICAL INSTRUCTION FACILITIES, FALL, 1973

ROOM TYPE	NASF (thousands)	PERCENTAGES OF TOTAL
Classrooms	26	11.5
Class Laboratories	47	20.8
Research and Research Training	26	11.5
Library	22	9.7
Auditoria	7	3.1
Faculty Offices	43	19.0
Administrative Areas	43	19.0
Animal Facilities	12	5.3

The following table provides an indication of the relative size of the various room types.

TABLE 3.IV.4

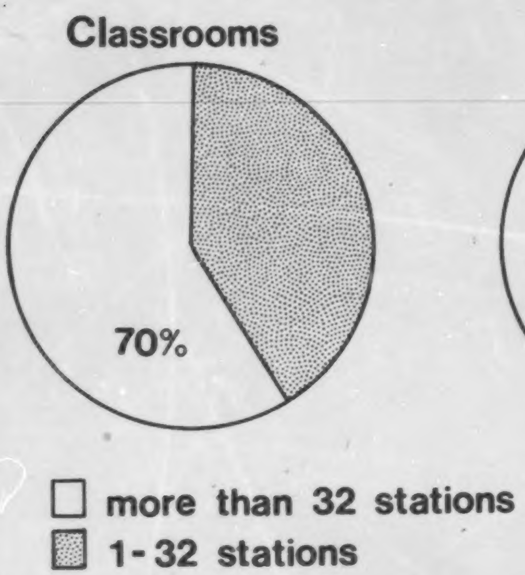
NASF PER ROOM AND STATION, SCHOOLS OF OSTEOPATHY, FALL, 1973

	NUMBER OF NASF (thousands)	NUMBER OF ROOMS	NUMBER OF STUDENT STATIONS	NASF PER STATION	NASF PER ROOM
Classrooms	26	34	1,673	16	812
Class Laboratories	47	38	1,378	34	1,237
Res. & Res. Train.	26	64	180	106	406
Library	22	--	333	66	--
Auditoria	7	2	686	10	3,500
Faculty Offices	43	198	--	--	217

The respondent schools utilized about the same number of classrooms (34) as class laboratories (38). Very few (3) of the class laboratories were designated "special purpose" as defined in the survey instructions. In general, the schools employed small class laboratories (25 of the 38 rooms contained less than 33 student stations), but larger classrooms (24 of the 34 classrooms contained more than 32 stations). All three of the special purpose laboratories held between 65 and 128 stations.

FIGURE 3.IV.A

CONTRAST IN DISTRIBUTION OF OSTEOPATHY SCHOOLS' CLASSROOM AND LABORATORY CAPACITIES



The schools of osteopathy were not heavily involved with sharing of classroom or class laboratory space with other health professions schools. Only one laboratory allocated to these schools was used by other than the respondent's students, and that room was only used 12 hours by the "borrower". No school of osteopathy reported using the class laboratory space of another school or parent institution. Classroom space was used somewhat more, but not to a large degree: only three such rooms were used by students of osteopathic medicine (for a total of 1,200 hours), while usage of respondents' classrooms by students of other health professions schools was negligible. Clearly, the schools of osteopathy relied almost exclusively on space that they controlled, largely because the privately owned schools of Osteopathy are free-standing institutions with little or no access to other instructional space.

2. The Student Population Using the Current Inventory

Respondents reported that as of the start of academic year 1973-74, the total FTE enrollment of undergraduate and graduate students was 1,818 with 6 of these students enrolled for advanced degrees. The vast majority of these students (92%) were reported by the four schools of the private sector.

TABLE 3.IV.5

FTE ENROLLMENT OF OSTEOPATHY SCHOOLS, FALL, 1973

	NUMBER OF SCHOOLS	FTE	FTE PER SCHOOL
TOTAL	5	1,818	364
Size of School			
Large	1	487	487
Medium	3	1,181	394
Small	1	150	150
Control			
Public	1	150	150
Private	4	1,668	417
Geographic Locale			
Innercity	1	329	329
Outercity	3	1,054	351
Rural	1	435	435
Curriculum Type			
Classical	3	1,251	417
Revised	2	567	284

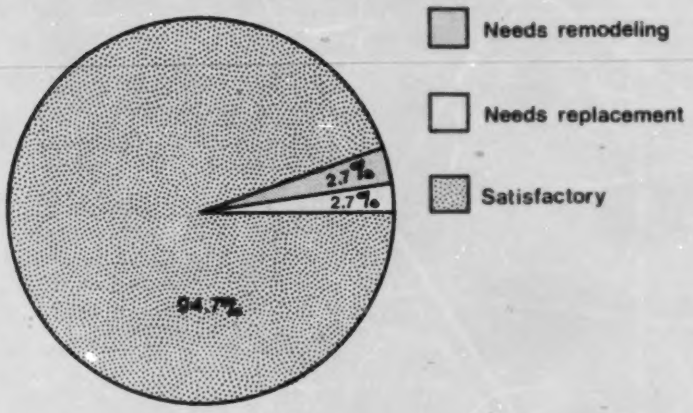
3. Adequacy of the Inventory, Fall 1973

a. Condition of Space

The majority (95%) of the nonclinical space allocated to the schools of osteopathy was reported as "satisfactory for program purposes". Half of the 12,000 NASF of unsatisfactory space could be made satisfactory through remodeling, leaving only 6,000 NASF perceived as needing replacement. Most (8,000 NASF) of the unsatisfactory space was located in classroom and class laboratory facilities.

FIGURE 3.IV.B

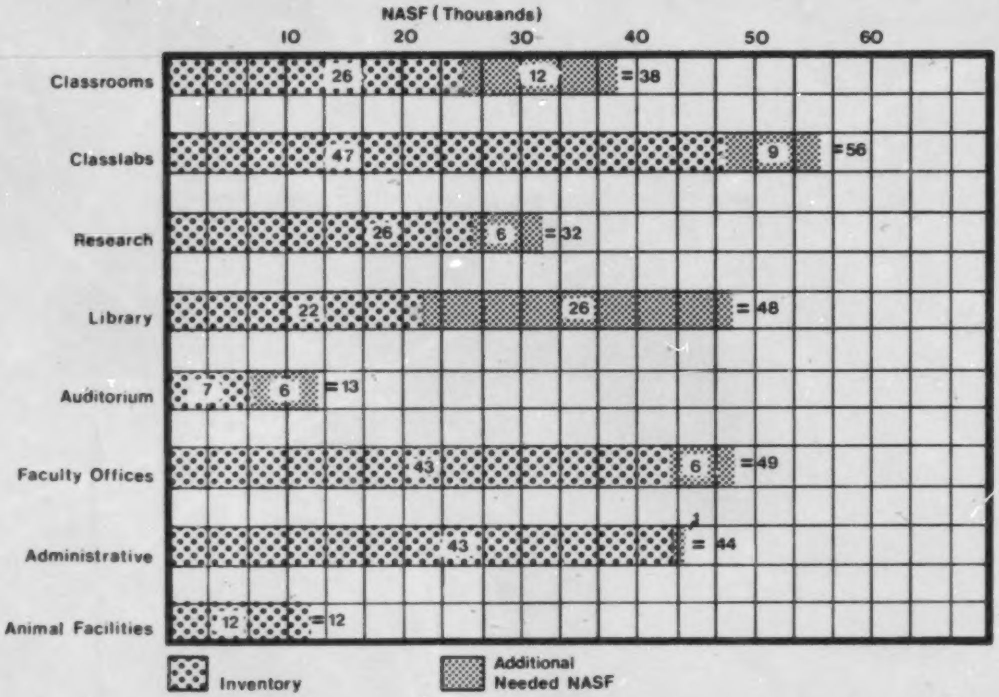
CONDITION OF SPACE ALLOCATED TO OSTEOPATHY SCHOOLS, FALL, 1973



b. Needs for Nonclinical Facilities as of Fall, 1973

Overall, four of the five schools reported a need for 38% expansion of their fall 1973 inventory to accommodate the student enrollment as of that date. The most serious perceived shortage (in terms of quantity and percent), and one reported by three of the four schools, was in library space where 40% of the reported need existed. Figure 3.IV.C depicts the relationship between the amount of space perceived as needed and the amount available as of fall, 1973. A little over one-third (36%) of the space reported as needed was for the purpose of overcrowding relief, with the largest contributory room-type that of classroom space: 83% of the classroom space needed was for this purpose. Most of the library space needed, on the other hand, appeared to address the issue of facilities obsolescence, with 77% of the need perceived here for "replacing obsolete space".

FIGURE 3.IV.C
COMPARISON OF OSTEOPATHY SCHOOLS' FALL 1973
INVENTORY WITH NASF PERCEIVED AS NEEDED



All five schools of osteopathy listed their minimum perceived needs for the resources defined in the questionnaire, with faculty and support staff named by the most schools (4) as in short supply. On an FTE basis, 100 new faculty and 165 support staff were required. Over and above the funds required to support the personnel increases, $2.5 million in operating funds and $215 thousand for equipment were listed. Further, 600 hospital beds and 30 examining and treatment rooms were perceived as required.

4. Resource Usage

a. Space and Stations Available Per Student

As shown in Table 3.IV.6, classroom and auditorium stations were available at a rate of about one per student, with class laboratory stations somewhat less numerous on a per student basis. Research and research training stations were available at the rate of about one for every ten students.

TABLE 3.IV.6

SPACE AND STATIONS PER STUDENT, SCHOOLS OF OSTEOPATHY

	NASF/STUDENT	STATIONS/STUDENT
Classrooms	14	1.0
Class Laboratories	26	.8
Research	14	.1
Library	12	--
Auditorium	4	.9
Faculty Offices	24	--
Administrative Offices	24	--
Animal Facilities	7	--

Organizing the schools by size category, Table 3.IV.7 indicates that for schools of osteopathy, smaller enrollment clearly requires greater resources per student. It should be noted, however, that the magnitude of these differences is temporary in the case of the small school which, it will be seen, plans to increase enrollment without increasing its Net Assignable Square Footage.

TABLE 3.IV.7

NASF PER STUDENT AT SCHOOLS OF OSTEOPATHY--FALL, 1973

	# SCHOOLS	NASF	# FTE STUDENTS	NASF/STUDENT
TOTAL	5	226	1,818	124
Large	1	29	487	60
Medium	3	157	1,181	133
Small	1	40	150	267

b. Utilization of Classrooms and Class Laboratories

In PART 1 it was stated that our purpose in assessing room and student station utilization was comparative analysis. This statement should be kept in mind in viewing the utilization percentages computed, because the computational methods employed tend to give lower-than-actual figures. Simply put, our utilization formula is given by:

$$\frac{\text{resource hours used}}{\text{resource hours available}} \text{ X } 100 = \% \text{ utilization,}$$

whether that resource is rooms or student stations. Rather than use, as "hours available", the academic years reported by respondents, we have substituted a 2,080 hour year in the formula's denominator. While all schools are now comparable, the actual percent usage is typically higher than those listed below since schools' academic years were ordinarily shorter than 2,080 hours.

Classroom space was almost evenly divided in terms of basic biological (48%) versus clinical sciences instruction (52%). On the average, classrooms were used about one-fifth of the available room hours during the 2,080 hour year (22%). Class laboratory facilities, on the other hand, were very heavily oriented towards basic sciences instruction, with 94% of the space primarily dedicated to that purpose. The use of the class laboratories was only about one-half that of classrooms, with 10% of the available aggregate room hours being utilized during the academic year (see Appendix G for a detailed discussion of the manner in which room utilization and student station utilization are computed).

TABLE 3.IV.8

CLASSROOM AND LABORATORY ROOM AND STATION UTILIZATION

CLASSROOM USAGE

	MEAN HOURS OF USAGE PER ROOM (ALLOCATED SPACE)	% ROOM USE	% STATION OCCUPANCY
TOTAL	454	22%	24%
Size of School			
Large	660	32%	36%
Medium	441	21%	21%
Small	0	**	**
Geographic Locale			
Innercity	796	38%	24%
Outercity	274	13%	27%
Rural	417	20%	30%

CLASS LABORATORY USAGE

	MEAN HOURS OF USAGE PER ROOM (ALLOCATED SPACE)	% ROOM USE	% STATION OCCUPANCY
TOTAL	234	10%	16%
Size of School			
Large	200	10%	23%
Medium	217	10%	15%
Small	660	32%	5%
Geographic Locale			
Innercity	387	19%	14%
Outercity	224	9%	25%
Rural	182	9%	10%

** No classrooms were controlled by respondent.

Not shown explicitly in the above table, but incorporated in the utilization percentages reported, is the "joint-use correction factor", which accounts for joint-utilization of facilities. Only one school reported such usage: the small school which showed zero classroom usage indicated that it "borrows" 75,600 classroom station-hours from other schools, a ratio of about 500 hours per student.

Room use and student station utilization figures are not comparable in the case of osteopathy schools since different respondents are involved in the calculations: 4 in one case, 5 in the other. The comparative relationship just seen for room utilization remains consistent with regard to station utilization, however. While student stations were used, on the average, about 24% of the time in the classroom, they were used 16% of the time in the class laboratory.

c. Faculty Offices

While the average faculty member is apparently assigned about 116 NASF of office space, Table 3.IV.9 exhibits marked fluctuation about this mean due to the small sample sizes in each category.

TABLE 3.IV.9

NASF OF FACULTY OFFICE SPACE PER FACULTY MEMBER

	# SCHOOLS	NASF OF OFFICE SPACE	# OF FTE FACULTY	# FACULTY OFFICES	NASF/FACULTY
TOTAL	5	43	370	198	116
Size of School					
Large	1	4	60	60	67
Medium	3	29	234	114	124
Small	1	10	76	24	132
Control					
Public	1	10	76	59	132
Private	4	33	294	139	112
Geographic Locale					
Innercity	1	14	69	32	203
Outercity	3	24	205	142	117
Rural	1	5	96	24	52

C. ONGOING CONSTRUCTION AND REMODELING, AND THE POST-CONSTRUCTION INVENTORY OF NONCLINICAL FACILITIES

1. Extent, Purposes, and Cost

Remodeling programs were more numerous than construction in the schools of osteopathy, with three such projects totalling $970 thousand compared to one $12 million construction effort. The construction program was being undertaken for a variety of purposes as shown in Figure 3.IV.D. Slightly more than one-third of the space was being added to expand enrollment, about one-half to relieve overcrowding and one-fifth for replacement of obsolete space.

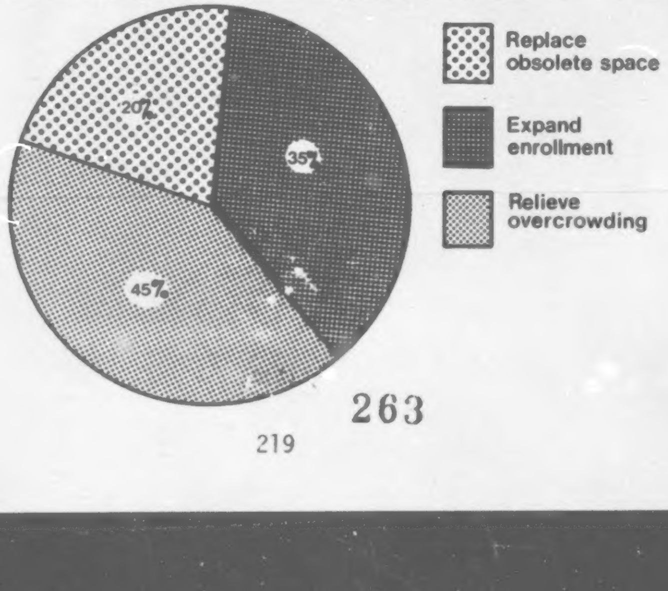
TABLE 3.IV.10

OVERVIEW OF ONGOING CONSTRUCTION AND REMODELING, SCHOOLS OF OSTEOPATHY, FALL, 1973

	NUMBER OF SCHOOLS	GSF OF NEW CONSTRUCTION (000)	COST ($000)	NASF BEING REMODELED (000)	REMODELING COST ($000)
TOTAL	4	218	12,000	22	970
Size of School					
Large	1	0	0	10	45
Medium	3	218	12,000	12	925
Small	0	0	0	0	0
Control					
Public	0	0	0	0	0
Private	4	218	12,000	22	970

FIGURE 3.IV.D

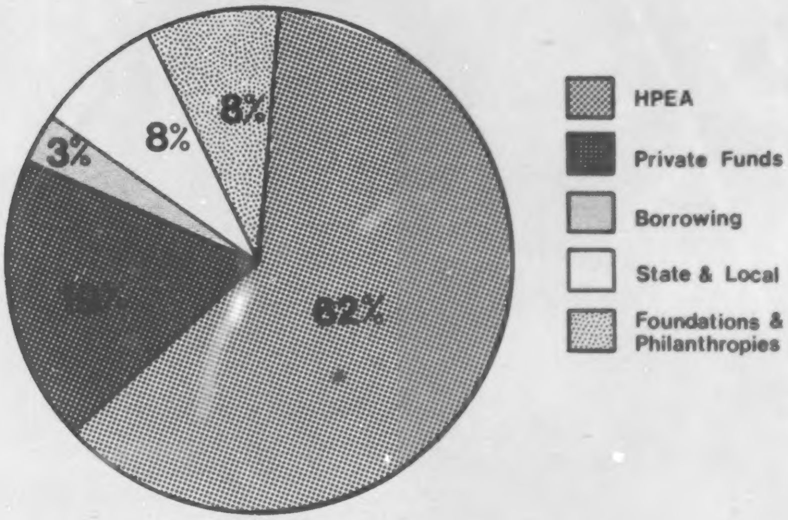
PURPOSES OF ONGOING NEW CONSTRUCTION AT A SCHOOL OF OSTEOPATHY, FALL, 1973



As shown in the following chart, almost two-thirds of the funds ($8 million of the $13 million cost) for the ongoing construction and remodeling programs were supplied through HPEA construction grants; with one-half of the remainder coming from the schools' private funds.

FIGURE 3.IV.E

SOURCES OF FUNDS, ONGOING CONSTRUCTION AND REMODELING AT OSTEOPATHY SCHOOLS, FALL, 1973



2. Effect of Ongoing Construction and Remodeling

Overall, osteopathy student enrollment is projected to increase by 12% (from 1,818 to 2,039) at that point in time at which the ongoing construction and remodeling efforts have been completed. About one-half of the enrollment increase will have occurred at the school involved in the new construction project.

As a result of the ongoing construction and remodeling efforts, 70,000 NASF will be added to osteopathy schools' nonclinical instruction facilities outside of clinical settings. As shown in Table 3.IV.11, facilities increases will tend to outstrip enrollment increases in the near future (except for the single "small", "public" school analyzed, which showed a continuing enrollment growth in the face of its zero immediate growth in facilities).

TABLE 3.IV,11

COMPARISON OF FALL, 1973 WITH POST CONSTRUCTION FACILITIES AND ENROLLMENT, SCHOOLS OF OSTEOPATHY

		FALL, 1973		POST CONSTRUCTION		% CHANGE FROM FALL, 1973	
	NUMBER OF SCHOOLS	NASF (000)	NUMBER OF STUDENTS	NASF (000)	NUMBER OF STUDENTS	NASF (000)	NUMBER OF STUDENTS
TOTAL	5	226	1,818	296	2,039	31	12
Size of School							
Large	1	29	487	39	515	34	6
Medium	3	157	1,181	217	1,293	38	9
Small	1	40	150	40	231	0	54
Control							
Public	1	40	150	40	231	0	54
Private	4	186	1,668	256	1,808	38	8

From the above table we have derived the effect of ongoing construction and remodeling upon NASF per student. As may be seen in Table 3.IV.12, the enrollment growth projected for the single small, publicly controlled school tends to bring that school's NASF per student figure into closer correspondence with other schools', in particular those denoted "medium" sized.

TABLE 3.IV.12

THE EFFECT OF ONGOING CONSTRUCTION AND REMODELING ON NASF PER STUDENT AT SCHOOLS OF OSTEOPATHY

	NUMBER OF SCHOOLS	NASF PER STUDENT FALL, 1973	NASF PER STUDENT POST-CONSTRUCTION	% CHANGE FROM FALL, 1973
TOTAL	5	124	145	17
Size of School				
Large	1	60	76	27
Medium	3	133	168	26
Small	1	267	173	-73
Control				
Public	1	267	173	-73
Private	4	112	142	27

3. Post-Construction Needs

Following the completion of ongoing construction and remodeling, two osteopathy schools project a remaining need for 36,000 NASF of nonclinical instruction facilities. This need is well-balanced among the room-types except for administrative offices and animal facilities--where it is nearly non-existent. As shown in Table 3.IV.13, this need is a substantial portion of the existing inventory of those schools reporting the need.

TABLE 3.IV.13

NASF NEEDED FOLLOWING COMPLETION OF ONGOING CONSTRUCTION AND REMODELING

	POST-CONSTRUCTION NASF (ALL SCHOOLS) (000) (1)	POST-CONSTRUCTION NASF (SCHOOLS REPORTING A NEED) (000) (2)	ADDITIONAL SPACE NEEDED (000) (3)	ADDITIONAL NEED AS % OF OVERALL INVENTORY ((3)/(1))	ADDITIONAL NEED AS % OF INVENTORY OF THOSE SCHOOLS WITH A NEED ((3)/(2))
TOTAL	296	97	36	12	39
Classroom	39	10	5	13	50
Class Laboratory	49	25	7	14	28
Research and Research Training	32	15	6	19	40
Library	37	5	6	16	120
Auditoria	9	0	6	67	--
Faculty Offices	59	15	5	8	33
Administrative Areas	58	15	1	2	7
Animal Facilities	13	0	0	0	--

D. THE 1983 LOOK AHEAD

Three of the five schools of osteopathy envisioned major programs of construction prior to 1983, exclusive of the program in progress. In all, the space inventory is projected to almost exactly double, as 260 thousand NASF of construction are planned by these three schools (see Table 3.IV.14). As shown in Figure 3.IV.F, nearly 40% of the space to be constructed will be for the purpose of expanding enrollment.

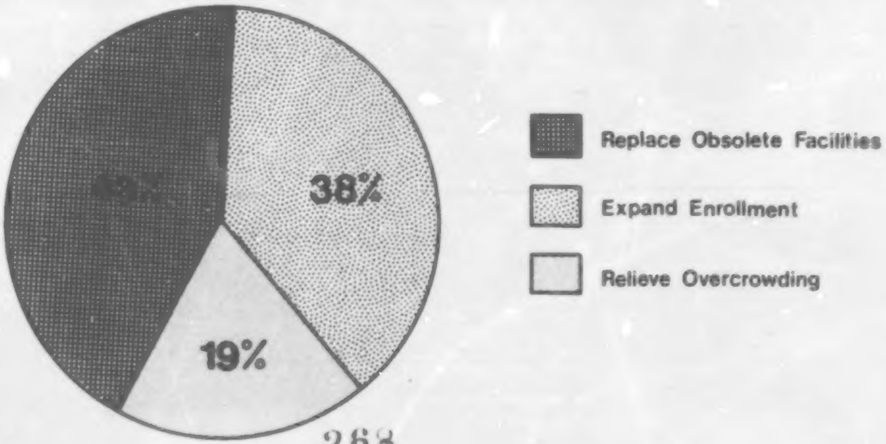
TABLE 3.IV.14

CONSTRUCTION AND REMODELING PLANNED THROUGH 1983

	REMODELING		CONSTRUCTION	
	NUMBER OF SCHOOLS	THOUSANDS NASF	NUMBER OF SCHOOLS	THOUSANDS NASF
TOTAL	3	69	3	260
Size of School				
Large	0	0	0	0
Medium	3	69	1	100
Small	0	0	2	160
Control				
Public	0	0	0	0
Private	3	69	3	260

FIGURE 3.IV.F

OSTEOPATHY SCHOOLS' CONSTRUCTION PURPOSES THROUGH 1983



Consistent with the amount of space being constructed to expand enrollment, the student enrollment (headcount) is expected to increase by 44% over the post construction headcount, from 2,039 to 2,928. This figure represents an overall increase of 61% over the 1973 enrollment level and is one of the largest projected growth rates reported by any of the professions surveyed.

E. INVENTORY OF CLINICAL AND NONCLINICAL INSTRUCTION FACILITIES IN OWNED AND AFFILIATED HOSPITALS--FALL, 1973

1. Clinical Facilities

Two schools of osteopathy reported a total of nine major affiliation agreements, seven of them from one school. The remaining three schools utilize "on-site patient care" facilities and "minor affiliates" as their source of clinical teaching resources.

Tables 3.IV.15 and 3.IV.16 summarize the clinical teaching resource represented by the osteopathy schools' major affiliated and owned clinical facilities.

TABLE 3.IV.15

OUTPATIENT CARE FACILITIES FOR TEACHING PURPOSES--FALL, 1973

NUMBER OF FACILITIES	PATIENT STATIONS	OUTPATIENT VISITS* PER YEAR	NUMBER OF STUDENTS**	VISITS PER STUDENT PER YEAR	VISITS PER PATIENT STATION PER YEAR	STUDENTS PER PATIENT STATION
12	249	273,978	1,175	233	1,100	4.7

* 3 of the hospitals, representing 29 patient stations, did not supply this data.

** FTE graduate and undergraduate enrollment for those three schools reporting owned or major affiliated hospitals.

TABLE 3.IV.16

INPATIENT CARE FACILITIES FOR TEACHING PURPOSES--FALL, 1973

NUMBER OF FACILITIES	NUMBER OF BEDS	DAILY CENSUS (ADPL)	NUMBER OF STUDENTS**	BEDS PER STUDENT	OCCUPIED BEDS PER STUDENT
12	3,862	3,161	1,175	3.3	2.7

** See footnote for Table 3.IV.15.

Twenty-six hospitals were reported on those pages of the instrument designed for "minor" affiliated hospitals and clinics. While almost no information was supplied regarding six of these hospitals, the remaining twenty represented a total of 4,193 beds (with an aggregate daily census of 3,523) and 145 ambulatory patient stations, with a total traffic of 274.4 thousand patient visits per year.

2. Nonclinical Facilities in Clinical Areas

The two schools using major affiliated hospitals reported 61,000 NASF of nonclinical instruction facilities available for their use at the 9 hospitals. Forty-six percent of this space was "classroom-type", while most of the remaining space was distributed nearly equally among library facilities, auditoria, faculty offices, and administrative areas (10%, 10%, 10%, and 7% respectively).

As may be seen in Table 3.IV.17, the majority of the space was in satisfactory condition, although 3,000 NASF were not accounted for in the tally.

TABLE 3.IV.17

AMOUNT AND CONDITION OF OSTEOPATHY SCHOOLS' NONCLINICAL FACILITIES IN CLINICAL AREAS--FALL, 1973

	NUMBER OF HOSPITALS	TOTAL NASF (000)	NASF SATISFACTORY (000)	NASF NEEDING REMODELING (000)	NASF NEEDING REPLACEMENT (000)
TOTAL	9	61	55	0	3
Size of School					
Large	1	21	21	0	0
Medium	8	40	34	0	3
Small	0	0	0	0	0
Control					
Public	0	0	0	0	0
Private	9	61	55	0	3

Only one hospital perceived a need for 3,000 NASF, apportioned equally among classrooms, research, and auditorium facilities. Two-thirds of this space was required for overcrowding relief. It should be noted that respondents did not include in this 3,000 NASF, the square footage of space under construction as of fall, 1973.

F. ONGOING CONSTRUCTION AND REMODELING, AND THE POST-CONSTRUCTION INVENTORY OF NONCLINICAL INSTRUCTION FACILITIES IN CLINICAL AREAS

1. Extent, Purposes, and Cost

Construction and remodeling programs underway as of fall, 1973, would result in significant expansion of the clinical facilities available to the respondents, particularly in the outpatient aspect of the programs. Five of the nine owned and major affiliated hospitals reported a total of 217 thousand GSF of construction adding 524 new beds (15% of the current number) and 100 new outpatient stations (78% of current number). None of this expansion was being undertaken to expand enrollment, as overcrowding and obsolescence each accounted for half the total.

Table 3.IV.18 gives an overview of the construction and remodeling in progress as of fall, 1973.

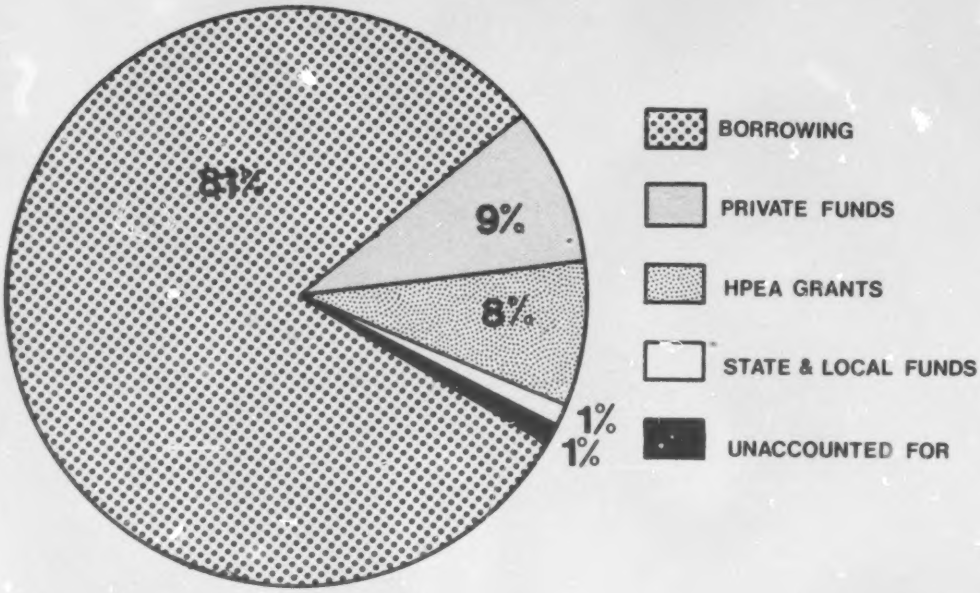
TABLE 3.IV.18

OVERVIEW OF ONGOING CONSTRUCTION AND REMODELING AT OWNED AND MAJOR AFFILIATED HOSPITALS OF OSTEOPATHY SCHOOLS--FALL, 1973

	NUMBER OF HOSPITALS	GSF (000) OF NEW CONSTRUCTION	COST ($000) OF NEW CONSTRUCTION	AVERAGE COST PER GSF	NSF (000) OF REMODELING	REMODELING COST ($000)
TOTAL	5	217	19,180	81	11	20
Size of School						
Large	1	102	7,200	71	0	0
Medium	4	115	11,980	91	11	20
Small	0	0	0	0	0	0
Control						
Public	0	0	0	0	0	0
Private	5	217	19,180	81	11	20
Geographic Locale						
Innercity	1	10	466	47	11	20
Outercity	4	207	18,714	83	0	0
Suburban	0	0	0	0	0	0
Rural	0	0	0	0	0	0

Figure 3.IV.G depicts the percentage distribution of the funding sources for the $19.4 million commitment to ongoing construction and remodeling. As may be seen, borrowed funds comprise the bulk of the dollar resources utilized.

FIGURE 3.IV.G
SOURCES OF FUNDS FOR ONGOING CONSTRUCTION AND REMODELING
OF CLINICAL INSTRUCTION FACILITIES



2. Effect of Ongoing Construction and Remodeling of Clinical Facilities

All 3 construction and remodeling programs were taking place at hospitals already in use. While the effects of one such program upon nonclinical instruction facilities were not yet known, the other two programs would add approximately 5,000 NASF to the inventory. The total of 66,000 NASF in the 9 affiliated hospitals, represents just over 22% of the total inventory of nonclinical instruction space.

G. THE 1983 LOOK-AHEAD: CONSTRUCTION AND REMODELING OF CLINICAL INSTRUCTION FACILITIES

Three hospitals project new construction of 121,000 NASF of additional nonclinical instruction facilities in clinical areas through 1983. All three hospitals are affiliated with medium-sized schools in the private sector; and all are situated in either innercity or outercity locales. Almost to the exclusion of other purposes, the primary reason underlying these projected construction programs is that of overcrowding relief (89%). The remaining 11% of the space (13,000 NASF) is for "other" purposes, with no projected construction for enrollment expansion or replacing obsolete facilities. Recalling the 61% growth rate projected for the student population, the question arises as to whether future construction plans are in concert with anticipated expansion in enrollment; and whether the clinical facilities can indeed support such growth.

As of the fall of 1973, the 20 "minor" affiliates (for which data were obtained) reportedly offer some degree of additional clinical resources to the extent that certain needs can be fulfilled and major affiliation agreements can be developed with them. Eleven such facilities, representing some 2,529 beds, were not utilized as major affiliates due to lack of needed faculty or support staff; while one 165 bed hospital was indicated as lacking the minimum classrooms, library, and office-type facilities requisite to effective use as a teaching hospital. The remaining 8 facilities representing 1,499 beds, did not appear to warrant major affiliate status, in view of the nature of their patients in terms of required treatment and length of stay.

V. SCHOOLS OF PHARMACY

A. INTRODUCTION

While it typically requires 5 years (post high school) to obtain a professional degree in pharmacy, there are a number of ways that these years can be apportioned between a strictly professional curriculum and a more generalized curriculum. Thus, a number of three year pharmacy schools have been evolved for which the first two years of the five-year pharmacy education (the "pre-pharmacy" years) are accommodated in a bachelor of science program (e.g., chemistry); while in the final three years, the teaching effort is concentrated upon professional pharmacy. Some 2-3 programs are being replaced by 1-4 programs, in order to allow time for clinical pharmacy training during the later years.

It is interesting to note that most, if not all of the schools offering a 2-3 program indicated that the first two years of "pre-pharmacy" training were actually representative of pharmacy students utilizing "joint-use" facilities. Although space used by prepharmacy students is, strictly speaking, outside the scope of this survey, the researchers included such data when reported. It was decided to report this data because approximately 5 years must elapse between the end of a high school curriculum and the attainment of a professional pharmacy degree: were the various Bachelor of Science programs not in existence, or not conveniently available to the schools of pharmacy residing on the campus of a university, it is felt that many more "0-5" schools of pharmacy would exist today. With these thoughts in mind, we expect to find a great deal of joint-usage reflected in the data, although a significant amount of classroom and class laboratory instruction facilities should, because of the nature of the pharmacy curriculum, also be found under the control of the typical pharmacy school itself.

The advent of the concept of a "health care team" which includes a pharmacist implies growing recognition of the need for more (and more direct) contact between the pharmacy student and the in-and-out-patient traffic of hospitals and clinics. Discussions with respondents indicate that pharmacy students utilize not only the pharmacy of a hospital, but to a limited degree are beginning to make "rounds" with the "health care team", thus preparing them for future advice and consultation regarding such issues as the expected drug interactions in the case of multiple prescriptions. Those knowledgeable in the field cite instances in which pharmacy stations are located on each hospital floor, serving as a focus for the pharmacy students. Thus, to the extent that pharmacy is a key to the control and treatment of disease, the in- and outpatient facilities of hospitals and clinics are key to the teaching programs of pharmacy schools. It might be noted parenthetically, that although not reflected in the analysis to follow, respondents reported a large variety of patient-contact situations being used to supply practical experience to pharmacy students (e.g., participation in poison control centers, community pharmacies, and drug rehabilitation centers).

In an effort to distinguish between schools which have a clinical training component in their teaching programs, and schools which do not, the researchers assigned, to a "revised" curriculum type, all schools of pharmacy reporting any hospital/clinical contact for their students. The "classical" curriculum was one in which such a component was not reported.

Table 3.V.1 derives the response rate for schools of pharmacy. As can be seen, these schools have been grouped into three size categories based on FTE graduate and undergraduate enrollment. Based on a frequency distribution of FTE enrollment sizes, the schools with 0-250 students were categorized as "small"; those with 251-550, "medium"; and those schools with an enrollment level of 550 or above, "large".

TABLE 3.V.1
SURVEY RESPONSE RATE FOR SCHOOLS OF PHARMACY

SCHOOLS OF: PHARMACY	NUMBER OF SCHOOLS IN UNIVERSE	NON-RESPONDENT			RESPONDENTS (NO. 1 - NO.2)	NEW SCHOOLS RESPONDING	ESTABLISHED RESPONDENTS (#3-#4)	NON-SUBSTANTIVE FORMS ESTAB. SCHOOLS	RESPONSES USED IN ANALYSIS (#5-#6)	ANALYZED SCHOOLS AS A % OF ESTABLISHED UNIVERSE (7/(1-2a-4))
		NEW SCHOOLS	ESTABLISHED SCHOOLS	TOTAL (#2a+ #2b)						
	#1	#2a	#2b	#2c	#3	#4	#5	#6	#7	#8
TOTAL	72	0	8	8	64	0	64	0	64	89
Large	17	0	0	0	17	0	17	0	17	100
Medium	38	0	7	7	31	0	31	0	31	82
Small	17	0	1	1	16	0	16	0	16	94
Public	53	0	5	5	48	0	48	0	48	91
Private	19	0	3	3	16	0	16	0	16	84
Innercity									25	
Outercity									32	
Suburban									4	
Rural									3	
Classical									27	
Revised									37	
Northeast	15	0	2	3	12	0	12	0	12	80
Northcentral	21	0	3	2	19	0	19	0	19	90
South	23	0	0	0	23	0	23	0	23	100
West	13	0	3	3	10	0	10	0	10	78

B. THE FALL, 1973 INVENTORY OF INSTRUCTIONAL FACILITIES CONTROLLED BY RESPONDENTS

1. Description

The sixty-four established respondent schools of pharmacy reported that, in the aggregate, they controlled some 3.06 million Gross Square Feet of instructional facilities. As is derived in Table 3.V.2, the latter figure represents just over two million NASF of nonclinical instruction facilities, excluding "on-site patient care" and "other" facilities for comparability of data. All respondents controlled some amount of space, with the reported configuration sizes ranging as high as 118 thousand NASF, and as low as 3 thousand NASF. A negligible amount of respondents' facilities were rented (under one percent), all of them by the publicly controlled small schools.

TABLE 3.V.2

OVERVIEW OF NONCLINICAL INSTRUCTION FACILITIES CONTROLLED BY PHARMACY SCHOOLS--FALL, 1973

1.	Number of Schools	64
2.	Owned GSF*	3,060
3.	Owned NASF*	2,281
4.	Rented/Leased NASF*	13
5.	Total (Owned or rented) NASF*	2,294
6.	NASF* of "on-site patient care" and "other" facilities	278
7.	NASF* excluding "on-site patient care" and "other", as analyzed herein	2,016

* In thousands.

Publicly controlled schools of pharmacy outnumbered the privately controlled schools by a factor of exactly three-to-one for the subpopulation under analysis -- and the NASF controlled by each of the sectors was in nearly the exact same ratio. In Table 3.V.3, it may also be seen that the average configuration size shows relatively little variability as a function of locale of school.

TABLE 3.V.3

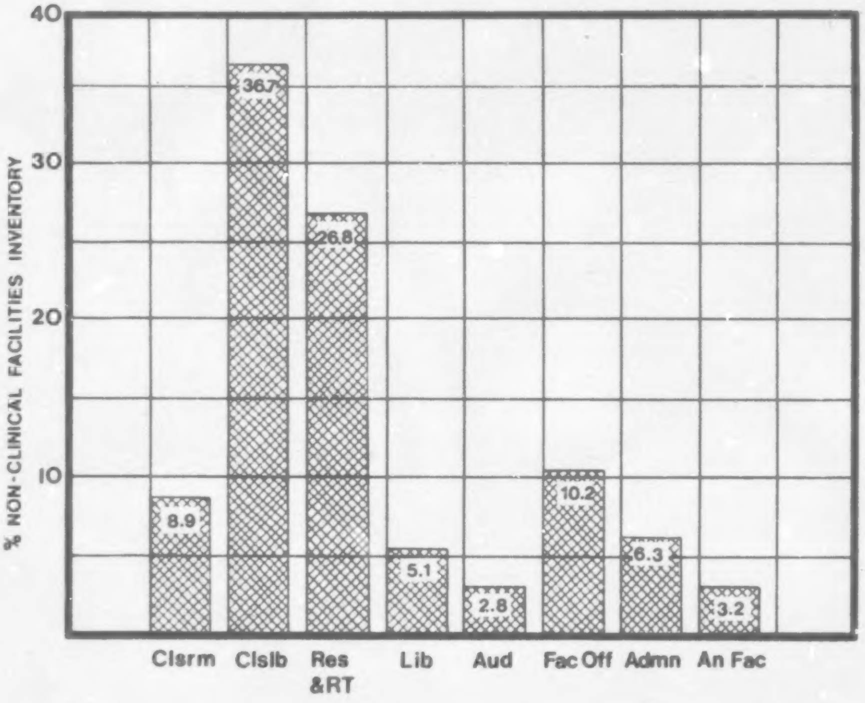
VARIABILITY OF CONFIGURATION SIZE WITH SIZE, CONTROL, AND LOCALE OF SCHOOL

	NUMBER OF SCHOOLS	TOTAL NASF CONTROLLED (000)	NASF OWNED (000)	NASF RENTED (000)	AVERAGE NASF PER SCHOOL (000)
TOTAL	64	2,016	2,003	13	31.5
Size of School					
Large	17	818	818	0	48.1
Medium	31	892	892	0	28.8
Small	16	306	293	13	19.1
Control					
Public	48	1,502	1,489	13	31.3
Private	16	514	514	0	32.1
Geographic Locale					
Innercity	25	714	714	0	28.6
Outercity	32	1,112	1,099	13	34.8
Suburban	4	103	103	0	25.8
Rural	3	87	87	0	29.0

The aggregate space distribution profile for pharmacy schools indicates that they were highly oriented toward class-laboratory instruction, and that they were very much research (and research training) oriented. Class laboratory square footage outnumbers classroom square footage by a factor of four to one, primarily due to the fact that a large number of respondents offered 2-3 programs, with the first two years' students using the classroom facilities of the parent institution (see Figure 3.V.A).

FIGURE 3.V.A

PHARMACY SCHOOLS' SPACE DISTRIBUTION PROFILE--FALL, 1973



The distribution profile tends to be relatively stable for the various groupings of schools used in the analysis.

With the exception of research and research training space, whose NASF per room figures tend to be higher than those of most other professions, the figures in Table 3.V.4 closely resemble, room-type-by-room-type, those of other professions.

TABLE 3.V.4
PHARMACY SCHOOLS' NASF PER STUDENT STATION AND ROOM

	NASF (000)	NUMBER OF ROOMS	NUMBER OF STUDENT STATIONS	NASF PER ROOM	NASF PER STATION	STATIONS PER ROOM
Classrooms	179	210	12,949	861	14	62
Class Laboratories	739	589	17,518	1,255	42	30
Res. & Res. Train.	541	1,254	3,114	431	161	3
Library	102	--	2,421	--	42	--
Auditoria	56	16	5,799	3,500	10	362
Faculty Offices	205	1,205	--	170	--	--

Respondents reported over two and one-half times the number of class laboratories as classrooms, with 35% of the former considered "special purpose" class laboratories.

2. The Pharmacy Student Population Using the Fall, 1973 Inventory

Schools of pharmacy reported a total of 25,628 FTE students, 24,016 undergraduates and 1,612 enrolled for advanced degrees. Nearly two and one-half times as many students were enrolled in publicly controlled schools as in those under private control, while ninety percent of the students were reported to be obtaining their education in schools situated in inner-city and outer-city locales (see Table 3.V.5).

TABLE 3.V.5

FTE ENROLLMENT IN SCHOOLS OF PHARMACY--FALL, 1973

	NUMBER OF SCHOOLS	TOTAL FTE ENROLLMENT	FTE UNDER-GRADUATE	FTE GRADUATE	AVERAGE FTE PER SCHOOL
TOTAL	64	25,628	24,016	1,612	400
Size of School					
Large	17	11,346	10,6[illegible]	651	667
Medium	31	11,340	10,467	873	366
Small	16	2,942	2,854	88	184
Control					
Public	48	18,327	17,132	1,195	382
Private	16	7,301	6,884	417	456
Geographic Locale					
Innercity	25	9,048	8,443	605	362
Outercity	32	14,133	13,279	854	442
Suburban	4	1,221	1,124	97	305
Rural	3	1,226	1,170	56	409
Curriculum Type					
Classical	27	11,892	11,215	677	440
Revised	37	13,736	12,801	935	371
Census Region					
Northeast	12	5,904	5,355	549	492
Northcentral	19	8,542	7,956	586	450
South	23	8,373	8,003	370	364
West	10	2,809	2,702	107	281

3. Adequacy of the Fall, 1973 Inventory

a. Condition

Eighty-nine percent of the 2 million NASF of nonclinical instruction facilities at pharmacy schools were reported to be "satisfactory for program purposes". Two-thirds of the remaining space (142,000 NASF) were perceived as requiring replacement (prior to the positive effects of ongoing construction and remodeling programs); and it was reported that only 72,000 NASF could be brought to a satisfactory state through remodeling. One respondent felt that his entire facility required replacement.

When the respondent population was divided according to "locale of school", the portion of space reported as "unsatisfactory" by innercity schools was just over 17%, decreasing for outercity and suburban schools, but increasing for the three rurally situated schools to over 25% in the aggregate. As may be seen in Table 3.V.6, innercity schools represented the largest portion of the perceived replacement need.

TABLE 3.V.6

PHARMACY SCHOOLS' CONDITION OF SPACE AS OF FALL, 1973

	TOTAL NASF (000)	NASF SATIS-FACTORY	SATIS-FACTORY %	NASF NEEDING REMOD-ELING	% NEEDING REMOD-ELING	NASF NEEDING REPLACE-MENT	% NEEDING REPLACE-MENT
TOTAL	2,016	1,802	89	72	4	142	7
Size of School							
Large	818	764	93	11	1	43	5
Medium	892	754	85	46	5	92	10
Small	306	284	93	15	5	7	2
Control							
Public	1,502	1,357	90	49	3	96	6
Private	514	445	87	23	4	46	9
Geographic Locale							
Innercity	714	591	83	48	7	75	11
Outercity	1,112	1,043	94	12	1	57	5
Suburban	103	103	100	0	0	0	0
Rural	87	65	75	12	14	10	11

The publicly controlled schools reported over twice as much space needing replacement as did their private counterparts. Although the portions needing replacement were given as 6% and 9% for the respective groups of schools, the three-times greater amount of space controlled by the public sector resulted in the greater replacement need on an absolute basis.

The condition of space (expressed as "percentage satisfactory") shows little variability from room-type to room-type. Variation about the 89% "grand mean" tends to be under 10 percent for those groupings of schools containing a large enough portion of the population to imply statistical stability.

b. The Perceived Need for Educational Resources, Fall 1973

In all, fourty-four schools of pharmacy perceived a need for 570,000 NASF additional to those nonclinical instruction facilities reported as "allocated". This need, 28 percent when expressed as a percentage of the inventory as of the survey date, represents 45 percent of the inventory of those respondents perceiving a need.

The majority of this need was felt by 36 schools in the public sector which indicated that a thirty-three percent expansion (.5 million NASF) of their overall inventory was needed to accommodate their then-current enrollment level (see Table 3.V.7).

TABLE 3.V.7

FACILITIES PERCEIVED AS NEEDED PRIOR TO ONGOING CONSTRUCTION AND REMODELING--FALL, 1973

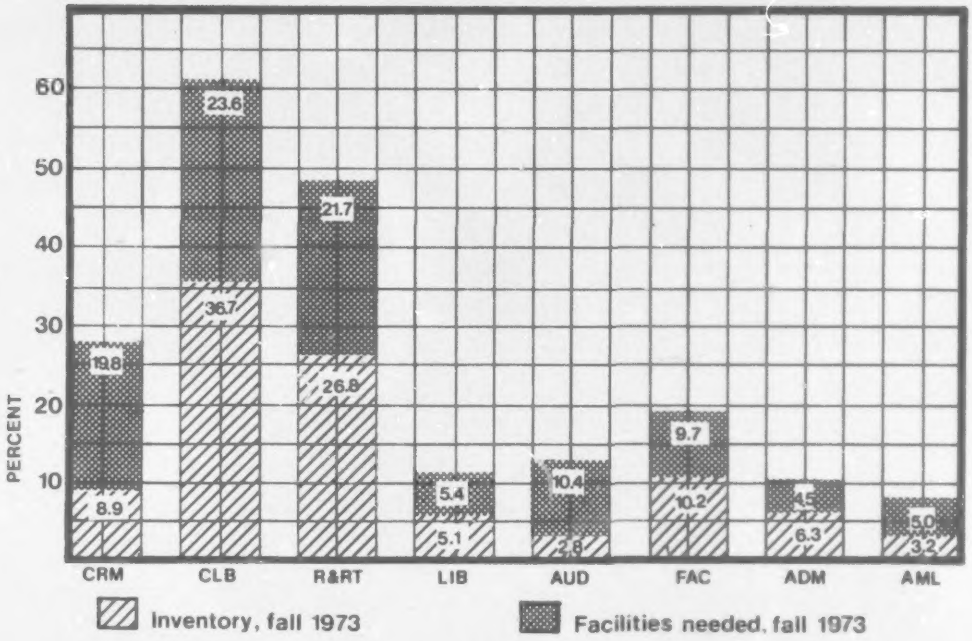
	NUMBER OF SCHOOLS (1)	TOTAL ALLOCATED NASF (2)	SCHOOLS REPORTING A NEED (3)	ALLOCATED NASF (000) FOR SCHOOLS IN COL(3) (4)	NASF NEEDED (000) (5)	COL (5) AS % OF COL(2) (6)	COL (5) AS % OF COL(4) (7)
TOTAL	64	2,016	44	1,262	572	28	45
Size of School							
Large	17	818	9	400	101	12	25
Medium	31	892	25	716	380	43	53
Small	16	306	10	146	91	30	62
Control							
Public	48	1,502	36	1,025	501	33	49
Private	16	514	8	237	71	14	30
Geographic Locale							
Innercity	25	714	19	543	262	37	48
Outercity	32	1,112	21	595	257	23	43
Suburban	4	103	1	37	6	6	16
Rural	3	87	3	87	47	54	54

When the need expressed for each room type is converted to a percentage of the total need, it is found that this "profile of needs" is somewhat similar to that space distribution profile existing as of the survey date, with the exceptions that respondents apparently desired to increase classroom and auditorium facilities at the expense (percentagewise) of class laboratories, and research and research training space (see Figure 3.V.B).

FIGURE 3.V.B

DISTRIBUTION PROFILE OF PERCEIVED NEEDS, FALL, 1973

COMPARED WITH NONCLINICAL FACILITIES INVENTORY



When the perceived needs are viewed on a per-student basis, it is found that in general, public schools wished to expand their NASF per student by one-third, private schools by one-seventh. Small schools reported a need to increase classroom space per student from 9 to 17 NASF, and class laboratory NASF per student from 45 to 58. Medium-sized schools perceived a need for a fivefold increase in the amount of auditorium facilities they controlled.

The survey instrument requested that respondents indicate the minimum need, if any for a variety of facilities and non-facilities resources which would help accommodate the enrollment level as of the survey date. Based on the set of potential resource needs outlined in the survey instrument, 54 of the 59 respondents to the question indicated the need for an additional 350 faculty, while the need fo' 246 support staff was noted by 50 schools. $14.7 million in added operating funds (exclusive of salaries for the additional faculty) were perceived as needed, $10 million on the part of one school, and the remainder by 50 other schools. Forty schools indicated a need for a total of 144,000 NASF of additional faculty offices, and the same number of schools reported a need for $2.4 million in new equipment.

c. Library Facilities

Eleven of the 48 respondents who answered the relevant question indicated that a "good match" existed between library space and enrollment as of the survey date. Eight indicated either that "up to 20% additional enrollment could be accommodated", or that "over 20% additional enrollment would not adversely impact the use of the library". The 29 remaining respondents indicated either "modestly" or "highly" overcrowded conditions in library space, with about equal frequency. These proportions held regardless of size, control, locale, or curriculum type.

4. Resource Usage

a. Space and Stations Available Per Student

In the aggregate, schools of pharmacy reported an overall average of 79 NASF per student ranging from a low of 20 to a high of 275. Not apparent from the schools' space distribution profile, on a per student basis, the amount of space tends to increase with decreasing school size, a relationship which, with few exceptions, holds for each room-type (see Table 3.V.8).

TABLE 3.V.8

NASF PER STUDENT AS A FUNCTION OF SIZE AND CONTROL OF SCHOOL

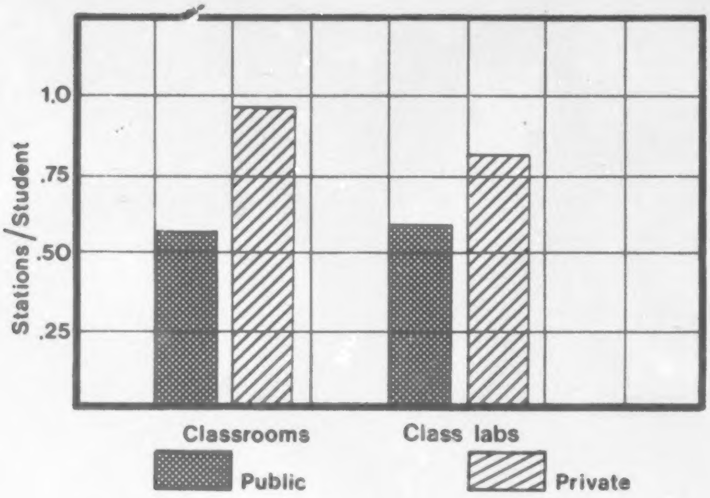
	TOTAL	CLASS-ROOMS	CLASS-LABS	RES. & RES. TRAIN.	LIB-RARY	AUDI-TORIUM	FACULTY OFFICES	ADMIN. OFFICE	ANIMAL FACIL.
TOTAL	79	7	29	21	4	2	8	5	2
Size of School									
Large	72	7	29	16	5	3	7	4	2
Medium	79	7	25	27	3	1	8	5	3
Small	104	9	45	21	4	3	12	7	3
Control									
Public	82	6	29	26	3	1	9	5	3
Private	70	9	29	9	7	5	6	4	1

Schools in the private sector reported somewhat fewer NASF per student (70) than schools in the public sector (82). The largest contributor to this differential was that of research and research training space, of which publicly controlled schools reported nearly three times as much as private schools -- 26 versus 9 NASF per student, respectively.

Classroom and class laboratory stations per student averaged .70 and .69, both showing a high of approximately 1.88. Eighteen of the 64 schools reported having no classrooms under their day-to-day control, while only one reported having no class laboratories. Each of the latter schools relied on the joint-usage of space for its classrooms and class laboratories. "Stations per student" measures for classrooms and class laboratories exhibited relatively little fluctuation over the various groupings of schools used in the analysis, with one major exception being the contrast between the 34 public schools and 12 private schools for which the computation could be made (see Figure 3.V.C).

FIGURE 3.V.C

CLASSROOM AND CLASS LABORATORY STATIONS/STUDENT: PUBLIC VERSUS PRIVATE



As mentioned in the prelude to this section, most respondents who offered a 3-year pharmacy program considered the "prepharmacy" students as a part of the pharmacy school enrollment. The net result was that in total, the schools of pharmacy reported a 3-to-1 ratio of "joint-use" to "allocated" classroom stations (39,000 versus 13,000).

Class laboratory stations, on the other hand, being more special-purpose in nature than classroom stations, are reported to be much fewer in the joint-use context: they represent only a 53% addition to respondents' controlled class laboratory stations.

Recalling that schools of the private sector reported approximately a third more stations per student than schools in the public sector (see Figure 3.V.C), we begin to assume that the difference is overcome by these jointly-used facilities. The data bears out this assumption by virtue of the 6-1/2 - to - 1 ratio of joint-use classroom stations available to the public versus the private schools, and the corresponding 3-1/2 - to - 1 ratio of class laboratory stations available to the two respective sectors (see Table 3.V.9).

TABLE 3.V.9
THE BALANCING EFFECT (ON STATIONS PER STUDENT) OF JOINT-USE SPACE

	CLASSROOMS		CLASS LABORATORIES	
	PUBLIC	PRIVATE	PUBLIC	PRIVATE
Student stations* in controlled space	7,828	5,099	11,534	5,984
Student stations** available in joint-use space	33,084	5,567	7,187	2,175
(Deduct) Controlled stations used by other schools	3,940	96	421	182
Total Stations	36,972	10,570	18,300	7,977
FTE Enrollment	18,327	7,301	18,327	7,301
Student stations+ per student	2.0	1.5	1.0	1.1

* For those schools reporting students and stations.

** By definition, these stations may be available only one hour per week.

+ Compare with Figure 3.V.C.

b. Usage of Classrooms

Fifty-one percent of respondents' classroom space was primarily devoted to instruction in the basic biological sciences; with 16% of the space devoted to instruction in the clinical sciences, and the remaining 33% of mixed usage. With minor exceptions, these proportions tend to hold regardless of the grouping of respondents.

The average classroom was used 655 hours out of the academic year. Small schools, at 511 hours, were substantially below the average. When the schools are grouped by control, public schools are slightly above the mean, while private schools are somewhat below it. We note also that grouping of the schools by "curriculum type" seems to show that the existence of a clinical teaching component has almost no impact on the usage of classrooms.

Table 3.V.10 arrays mean and total usage against total room availability, with the room utilization percentage, computed as described in Appendix G, displayed in the final column. As was noted in PART 1, the latter figures should be treated with caution--and their relative rather than absolute magnitudes studied. In brief, "utilization" is herein taken to imply the percentage ratio of:

$$\frac{\text{resource hours used}}{\text{resource hours available}},$$

whether the resource be rooms or student stations. Resource hours available" should theoretically be computed as "length of academic year (in hours)" times "number of rooms or student stations available for use." For comparability among the schools, we have substituted 2,080 hours for the reported "length of academic year". Since 2,080 is typically larger than the reported length, the computed utilization percentages are, on average, depressed to some degree.

TABLE 3.V.10

USAGE OF CLASSROOMS, SCHOOLS OF PHARMACY--FALL, 1973

	NUMBER OF SCHOOLS	MEAN HOURS PER ROOM PER YEAR	TOTAL* HOURS OF USAGE (000)	TOTAL** HOURS AVAILABLE (000)	COMPUTED UTILIZATION %
TOTAL	46	655	134	456	32
Size of School					
Large	13	679	54	181	31
Medium	21	690	61	193	35
Small	12	511	18	81	26
Control					
Public	34	687	89	287	34
Private	12	598	45	168	27
Geographic Locale					
Innercity	16	618	38	144	28
Outercity	24	663	78	258	33
Suburban	3	434	5	23	21
Rural	3	896	13	31	44
Curriculum Type					
Classical	18	690	54	179	31
Revised	28	633	80	277	32

* Over all rooms, both allocated and joint-use.

** Number of rooms at all schools x 2,080.

Room utilization computations, performed for those 46 schools for whom data were complete, averaged 32% for classrooms as seen in column 8 of the above table. This figure is seen to be primarily a function of usage in the public sector, since public schools, as a group, reported 34% in contrast to the 27% exhibited by privately controlled schools. Although not well reflected by the "average hours per room per year" figures previously noted, it is found that the percentage of room utilization ranges from 21% to 44% as a function of locale of school.

In view of the fact that joint-usage of facilities plays a major role in the operation of many pharmacy schools, Table 3.V.11 displays the reported joint-usage "in both directions". As may be seen, pharmacy schools represent a much larger loading on facilities not controlled by them than do the students of other professions upon pharmacy-controlled facilities.

TABLE 3.V.11

JOINT-USAGE OF PHARMACY SCHOOLS' CLASSROOMS

	ROOM HOURS "BORROWED" BY PHARMACY SCHOOLS (1)	"CONTROLLED" ROOM HOURS "LENT" BY PHARMACY SCHOOLS (2)	NET (1) - (2) (3)	"CONTROLLED" ROOM HOURS USED BY PHARMACY (4)	RATIO (1)/(4) (5)
TOTAL	86,599	9,668	76,931	134,192	.64
Size of School					
Large	28,990	1,236	27,754	54,336	.53
Medium	42,829	6,014	36,815	61,457	.70
Small	14,780	2,418	12,362	18,399	.80
Control					
Public	76,897	9,476	67,421	89,372	.86
Private	9,702	192	9,510	44,820	.22

The ratio of joint-use to "controlled" hours is quite large in all groupings analyzed. As might be predicted, the multi-school setting typically associated with the public university campus contributes to a 4-to-1 joint-usage differential between publicly and privately controlled schools (see column 5 in Table 3.V.11).

Classroom student station utilization figures averaged 31% for the 60 schools for whom station utilization rates (occupancy rates) could be computed using the method detailed in Appendix G. On a 2,080 hour base, the average station was occupied anywhere from 6% to 129% of the time. Again, schools in the public sector showed only a marginally greater aggregate utilization percentage than those in the private sector (32% versus 30%), and the two values may be considered equal. Table 3.V.12 displays these percentages, and the "raw material" involved in their computation.

TABLE 3.V.12

PHARMACY SCHOOLS' CLASSROOM STUDENT STATION UTILIZATION--FALL, 1973

	STUDENT HOURS* SPENT IN ANY CLASSROOM (1)	STATION-HOURS* UTILIZED IN NON-CONTROLLED CLASSROOMS (2)	CONTROLLED STATION-HOURS* AVAILABLE (3)	CONTROLLED STATION-HOURS* USED BY NON-PHARMACY (4)	$\frac{(1)+(4)}{(2)+(3)}$ X 100 = % STATION UTILIZATION (5)
TOTAL	10.4	8.6	26.5	.6	31
Size of School					
Large	4.9	2.4	12.2	.1	34
Medium	4.3	5.1	12.3	.3	29
Small	1.2	1.1	3.3	.1	27
Control					
Public	6.9	7.6	17.8	.6	32
Private	3.4	1.0	8.1	.0	30
Geographic Locale					
Innercity	4.3	3.8	10.0	.1	35
Outercity	5.0	3.6	13.0	.4	29
Suburban	.4	.7	1.3	.0	21
Rural	.7	.5	1.6	.0	34
Curriculum Type					
Classical	5.1	2.9	10.6	.1	36
Revised	5.3	5.7	15.4	.5	28

* In millions.

c. Class Laboratory Utilization

Pharmacy-controlled class laboratories were used 526 hours per year on the average, with special-purpose class laboratories typically used fewer hours per year than general purpose labs (431 versus 559). In parallel with Table 3.V.10, Table 3.V.13 outlines class laboratory usage (with general and special purpose labs combined due to data constraints).

TABLE 3.V.13
USAGE OF CLASS LABORATORIES, SCHOOLS OF PHARMACY--FALL, 1973

	NUMBER OF SCHOOLS	MEAN HOURS PER ROOM PER YEAR	TOTAL* HOURS OF USAGE (000)	TOTAL** HOURS AVAILABLE (000)	COMPUTED UTILIZATION %
TOTAL	46	526	249	988	25
Size of School					
Large	13	512	104	424	25
Medium	21	598	99	343	29
Small	12	440	47	220	21
Control					
Public	34	498	173	670	24
Private	12	587	88	318	28
Geographic Locale					
Innercity	16	599	90	320	28
Outercity	24	461	118	526	23
Suburban	3	406	17	85	20
Rural	3	916	25	56	44
Curriculum Type					
Classical	18	519	121	489	25
Revised	28	533	128	499	26

* Over all rooms, both allocated and joint-use.
** Number of rooms at all schools x 2,080.

As may be seen in the above table, mean usage tended to parallel that for classrooms, except that in the current instance, the private schools have a higher mean usage than those of the public sector.

Joint-usage of class laboratories was five times less than it was for classrooms, although the joint-usage reported was still substantial (see Table 3.V.14, and compare with Table 3.V.11).

TABLE 3.V.14
JOINT-USAGE OF PHARMACY SCHOOLS' CLASS LABORATORIES--FALL, 1973

	ROOM HOURS "BORROWED" BY PHARMACY SCHOOLS (1)	"CONTROLLED" ROOM HOURS "LENT" BY PHARMACY SCHOOLS (2)	NET (1) - (2) (3)	"CONTROLLED" ROOM HOURS USED BY PHARMACY (4)	RATIO (1)/(4) (5)
TOTAL	31,464	2,133	29,331	249,387	.13
Size of School					
Large	10,599	67	10,532	104,013	.10
Medium	16,926	1,696	15,230	98,746	.17
Small	3,939	370	3,569	46,628	.08
Control					
Public	23,961	967	22,994	173,312	.14
Private	7,503	1,166	6,337	88,075	.09

Student station utilization in class laboratories ranged between 4% and 125%, for individual schools, using the computational approach described in Appendix H. Schools of the public sector exhibited a higher utilization percentage than privately controlled schools (17% versus 12%); a fact notable because public schools' joint usage was greater than that of their private counterparts. That is, from Table 3.V.14 may be seen that (in column 5) the ratio of "borrowed" to "allocated" or "controlled" room hours is .14 (14%) versus .09. Since this figure is an addition to the denominator of the utilization formula, it tends, as a correction factor, to depress the public schools' utilization ratio more than it depresses that for the private schools.

Table 3.V.15 contains the station utilization averages for various groupings of pharmacy schools. They are, in general, much lower than the corresponding classroom percentages, even though the "mean hours of usage per year" for classrooms and laboratories differ by less than 25%.

TABLE 3.V.15

PHARMACY SCHOOLS' CLASS LABORATORY STUDENT STATION UTILIZATION--FALL, 1973

	STUDENT HOURS* SPENT IN ANY CLASSLAB	CONTROLLED* STATION-HOURS AVAILABLE	% STATION UTILIZATION
TOTAL	5.5	34.4	16
Size of School			
Large	2.4	14.5	16
Medium	2.5	13.5	18
Small	.7	6.4	11
Control			
Public	4.1	22.6	17
Private	1.4	11.9	12
Geographic Locale			
Innercity	2.1	12.9	16
Outercity	2.7	18.0	15
Suburban	.2	1.8	12
Rural	.4	1.9	23
Curriculum Type			
Classical	2.5	14.8	16
Revised	3.0	19.7	15

* In millions.

d. Faculty Offices

Faculty office space per full-time-equivalent teaching faculty member was reported to vary from 43 to 270 NASF on a school-by-school basis, with a mean of 123. Public and private schools reported approximately equal averages, notwithstanding the issue of joint-use space availability (see Table 3.V.16).

TABLE 3.V.16

PHARMACY SCHOOLS' FACULTY OFFICE SPACE PER FTE FACULTY MEMBER--FALL, 1973

	NUMBER OF SCHOOLS REPORTING FACULTY	NASF OF OFFICE SPACE (000)	NUMBER OF FTE FACULTY	NASF PER FACULTY
TOTAL	63	202	1,647	123
Size of School				
Large	17	77	555	139
Medium	31	93	861	108
Small	15	32	231	139
Control				
Public	47	155	1,278	121
Private	16	47	369	127
Geographic Locale				
Innercity	25	68	681	100
Outercity	32	118	824	143
Suburban	3	9	64	141
Rural	3	7	78	90

C. ONGOING CONSTRUCTION AND REMODELING, AND THE POST-CONSTRUCTION INVENTORY OF NONCLINICAL INSTRUCTION FACILITIES

1. Extent, Purposes, and Cost

As of the survey date, seventeen schools of pharmacy indicated their involvement in a construction or remodeling program. Ranging in size up to $7.6 million for a single school, these programs represent the construction of some .57 million GSF of new facilities. Two thirds of the reported construction costs and five sixths of the remodeling costs were being incurred by schools in the public sector.

TABLE 3.V.17

OVERVIEW OF ONGOING CONSTRUCTION AND REMODELING AT PHARMACY SCHOOLS--FALL, 1973

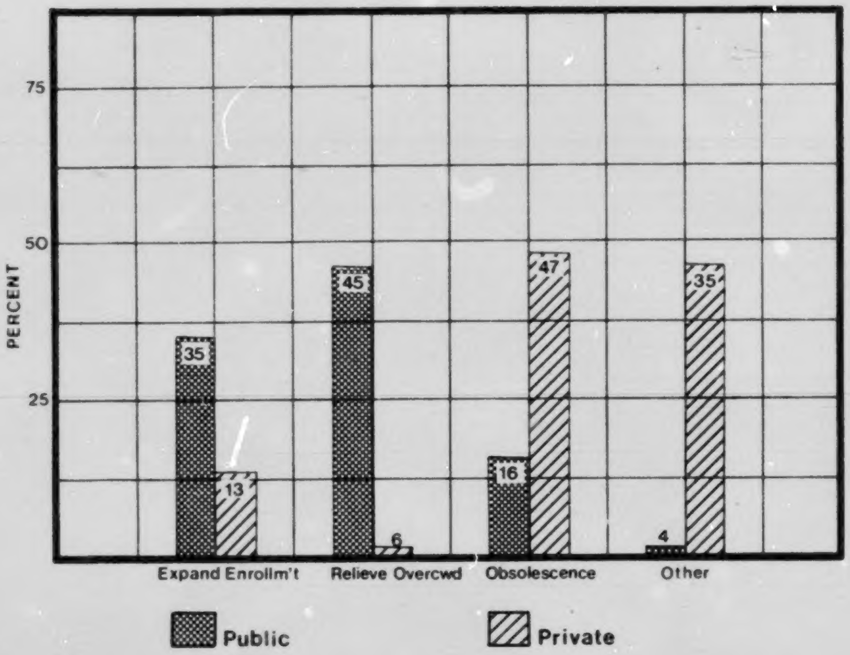
	NEW CONSTRUCTION				REMODELING		
	NUMBER OF SCHOOLS	GSF (000)	COST ($000)	AVERAGE COST PER GSF	NUMBER OF SCHOOLS	NASF (000)	COST ($000)
TOTAL	17	569	22,492*	40*	11	44	580
Size of School							
Large	4	0	--	--	4	14	132
Medium	7	310	16,611	54	4	18	391
Small	6	259	5,881	23	3	12	57
Control							
Public	13	425	13,790	32	9	39	485
Private	4	144	8,702	60	2	5	95
Geographic Locale							
Innercity	7	318	18,457	58	4	24	223
Outercity	7	171	35*	*	5	16	162
Suburban	1	0	--	--	1	1	15
Rural	2	80	4,000	50	1	3	180

* A number of respondents omitted the cost of their ongoing new construction programs. These figures are, thus, spuriously low, and all "dollars per GSF" figures should be treated with extreme caution.

Those eight schools reporting an ongoing construction program indicated that 29% of the new space was being built for the purposes of enrollment expansion; 35% was being constructed for the relief of overcrowding; and one of every four new GSF were being built for the replacement of obsolete space. Grouping the respondents into the kinds of categories utilized in previous analysis, and recognizing the small sample sizes which result, we find diametrically opposed purposes of new construction in the public and private sectors. As seen in the figure, obsolescence was the key purpose of construction for the private schools, while the publicly controlled schools cited enrollment expansion and overcrowding relief.

FIGURE 3.V.D

PHARMACY SCHOOLS' PURPOSES OF ONGOING CONSTRUCTION

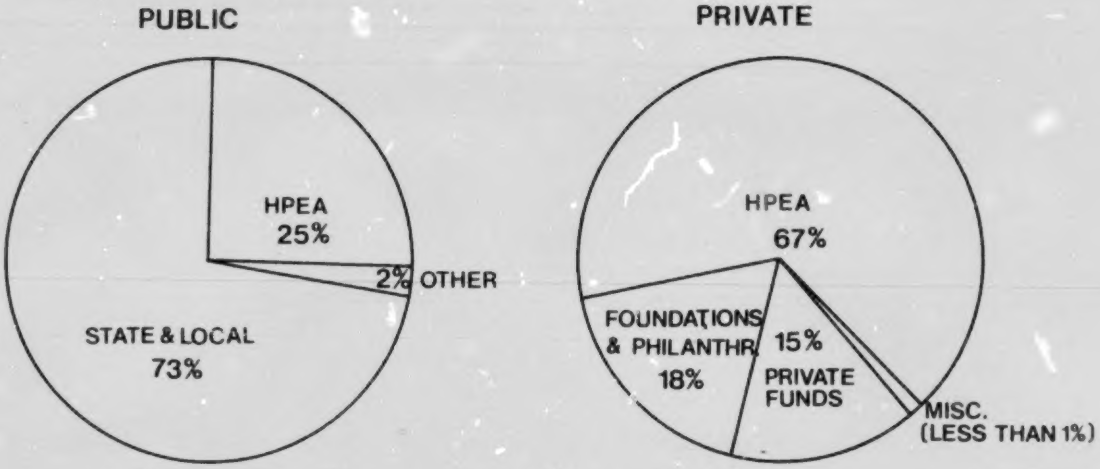


Differences in purpose of the ongoing construction programs are also a function of school size. With the large schools reporting no construction at all, the medium-sized schools estimated that over 40% of the construction was for replacing obsolete space; while only a small portion of the smaller schools' construction was for these purposes, but was focused more upon overcrowding relief.

2. Sources of Funds for Ongoing Construction and Remodeling Programs

Of the 23.1 million dollars reported by respondents as "fully authorized" for ongoing construction and remodeling efforts (a spuriously low total due to an occasional failure to report the costs of ongoing construction) over 40% was contributed by state and local sources (all of it to schools in the public sector), with HPEA construction grants accounting for another 41% of the total. While the majority (62%) of the HPEA grants were to publicly controlled schools, these grants represented the majority of the private schools' funding (see Figure 3.V.E).

FIGURE 3.V.E
SOURCES OF FUNDS FOR ONGOING CONSTRUCTION



3. The Effects of Ongoing Construction and Remodeling

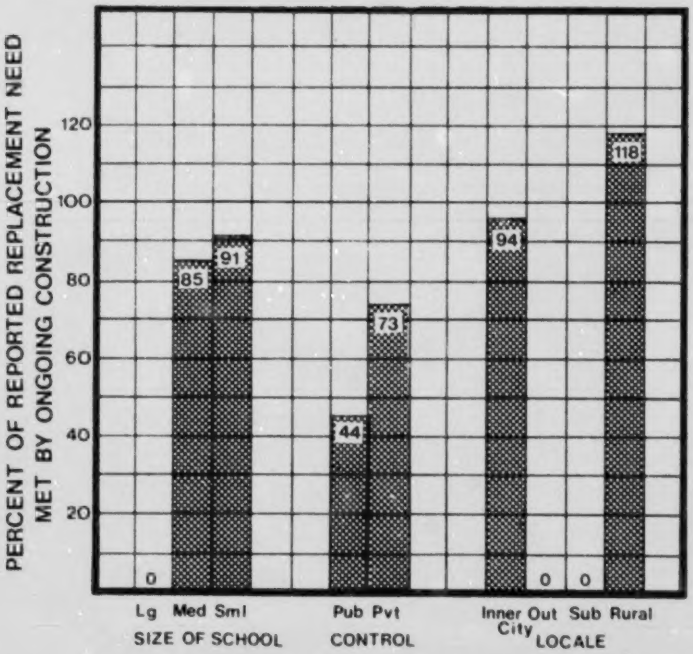
The net effect of ongoing construction and remodeling would be to increase the pharmacy schools' inventory of nonclinical instruction facilities to 2.2 million NASF. Since facilities replacement appeared to be one of the primary purposes in a number of instances of the ongoing construction, it is worthwhile to estimate the NASF of new construction for replacement purposes. We do this by multiplying respondents' reported percentage of the GSF (under construction) for replacement purposes by the NASF of new construction. We now compare this figure with that perceived as needing replacement as of the survey date to see where the needs for replacement are or are not being fulfilled.

In all, 140,000 NASF of the fall, 1973 inventory were indicated as "needing replacement": using the computational approach described above, we obtain an estimated NASF (being replaced) of 80,000 NASF, 56% of the need. This percentage is highly variable as a function of control and locale, and, with the exception of large schools, is constant for the "size of school" categorization (see Figure 3.V.F).

FIGURE 3.V.F

THE EFFECT OF ONGOING CONSTRUCTION ON

THE PHARMACY SCHOOLS' PERCEIVED REPLACEMENT NEEDS AS OF FALL, 1973

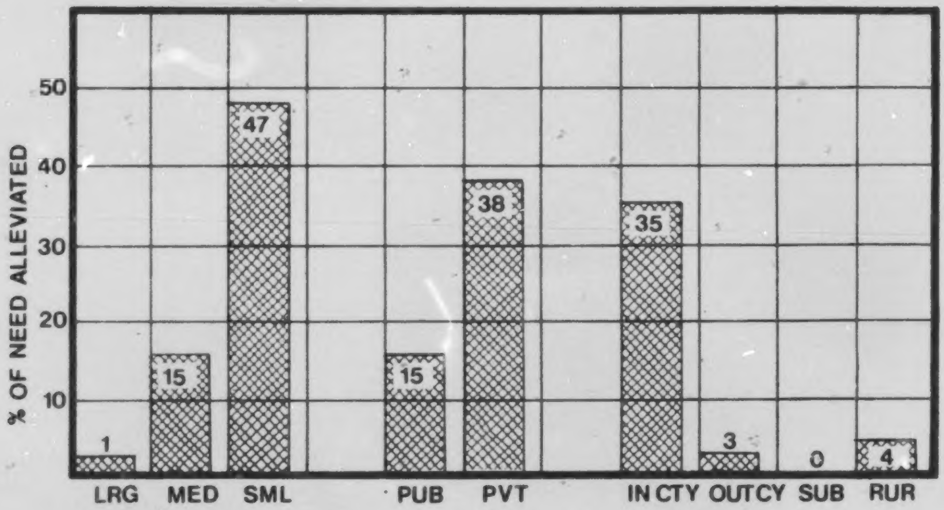


It has been stated that the "desired" space distribution profile was different only in minor respects from that which existed in the fall of 1973. When the ongoing construction is apportioned by type of space, it is apparent that it will engender little change in the space distribution profile as the construction itself approximates the profile. For the respondent schools of pharmacy as a whole, then, the effect of the construction will be to increase the amount of space of each type in proportion to its representation in the fall, 1973 inventory, rather than to change the size relationships between one room type and another.

Overall, these programs will add under 1 Net Assignable Square Foot per student. It is thus not surprising to find that the need for additional facilities, as perceived in the fall of 1973, has only been alleviated by 18% through ongoing construction and remodeling efforts. On the other hand, the alleviated need (the difference between the needs perceived as of the survey date and those projected as of the completion of ongoing construction and remodeling programs) fluctuates with size, control, and locale of school (see Figure 3.V.G).

FIGURE 3.V.G

OVERALL NEED ALLEVIATED BY ONGOING CONSTRUCTION



While it has been noted that the NASF per student figures change only slightly as a result of ongoing construction programs, it is also true that the enrollment figures used in the denominator of the computations are based on the respondents' projected enrollment following completion of these efforts. We must, therefore, consider the fluctuation in the enrollment figures themselves.

4. The Post-Construction Student Population

With the admittedly strong assumptions underlying our definition of "post-construction period" in mind, we find that the increase between the FTE enrollment as of the survey date and the FTE enrollment "following the completion of ongoing construction and remodeling" is just under 6%, with the respondents' projected aggregate enrollment increasing to 27,100 students. As is apparent in Table 3.V.18, the most vigorous growth rate is exhibited by the "small" schools; while the public and private schools indicate equal enrollment growth. In most cases, the percentage expansion in facilities outstrips the percentage growth in enrollment -- thereby relieving to some degree, the overcrowding problem perceived as of the survey date.

TABLE 3.V.18

COMPARISON OF PROJECTED ENROLLMENT AND FACILITIES GROWTH RATES

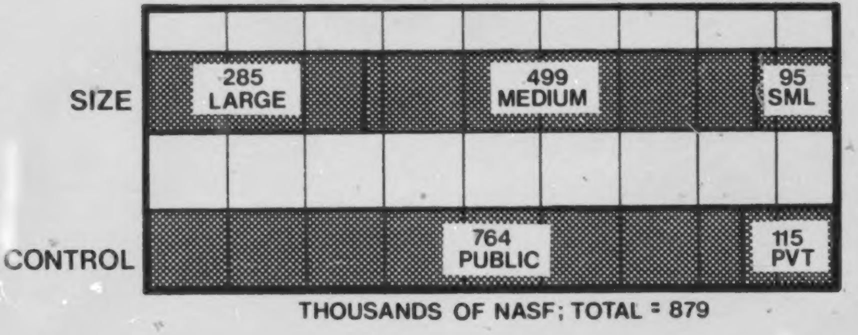
	NASF (000) FALL, 1973	NASF (000) "POST-CONSTRUCTION"	% CHANGE IN NASF	FTE ENROLLMENT FALL, 1973	FTE ENROLLMENT POST-CONSTRUCTION	% CHANGE IN ENROLLMENT
TOTAL	2,016	2,177	8	25,628	27,144	6
Size of School						
Large	818	772	-6	11,346	11,772	4
Medium	892	1,011	13	11,340	12,099	7
Small	306	394	29	2,942	3,273	11
Control						
Public	1,502	1,615	8	18,327	19,402	6
Private	514	562	9	7,301	7,742	6
Geographic Locale						
Innercity	714	790	11	9,048	9,845	9
Outercity	1,112	1,173	5	14,133	14,544	3
Suburban	103	104	1	1,221	1,311	7
Rural	87	110	26	1,226	1,444	18

D. THE 1983 LOOK AHEAD

Twenty-three pharmacy schools indicated plans for the construction of 879,000 NASF of facilities during the period between the completion of their ongoing construction and remodeling programs and the fall of 1983. As might be anticipated based on previous discussion of "medium-sized schools" and schools of the public sector, the bulk of this new construction was reported by these two overlapping groups (see Figure 3.V.H).

FIGURE 3.V.H

PHARMACY SCHOOLS' PLANNED CONSTRUCTION* THROUGH 1983



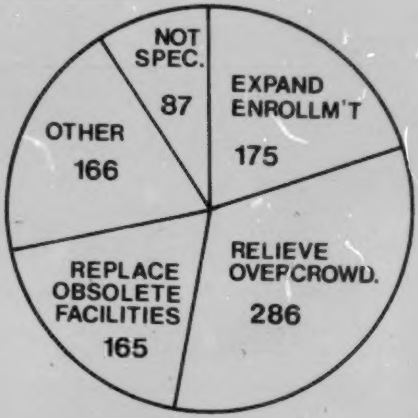
* Includes "on-site patient care" and "other" facilities.

Although planned remodeling was reported to a much lesser extent (170,000 NASF), all of it was reported by 12 publicly controlled schools; and 73% of it was reported by the schools of "medium" size.

As can be seen in Figure 3.V.I, the purposes of the construction planned by respondents through academic year 1983 were nearly equivalent, in percentage terms, over three of the four "purposes" defined by the instrument. Overcrowding relief was the lone exception. On a school-size by school-size basis, the percentage of new construction for enrollment expansion is nearly doubled for each successively decreasing size category: large schools indicated 11%, while medium and small schools indicated 22% and 38%, respectively.

FIGURE 3.V.I

PLANNED PURPOSES OF CONSTRUCTION OF NONCLINICAL INSTRUCTION FACILITIES* THROUGH 1983

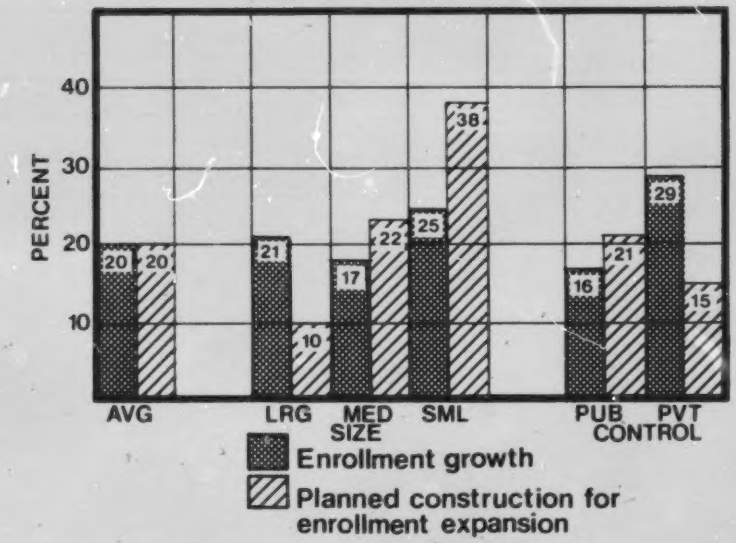


* In thousands of NASF.

The very strong pattern of percentages of ongoing construction for expansion of enrollment among the various school size categories does not match the reported projections of increase in enrollment through 1983. In fact, a number of mismatches appear in an overlay (see Figure 3.V.J) of enrollment growth versus new construction for enrollment expansion purposes. In view of the overcrowding problem already becoming apparent to respondents, these mismatches between apparent needs and projected construction purposes are liable to engender a realignment of plans in the coming decade, given that the enrollment increases are to become a reality.

FIGURE 3.V.J

COMPARISON OF ENROLLMENT GROWTH AND FACILITIES TO BE BUILT FOR ENROLLMENT EXPANSION THROUGH 1983



The "mismatches" referenced above are most obvious for large schools, and for schools in the private sector. Table 3.V.19 displays, for these and other groups, the changes in NASF per student expected to occur between fall, 1973 and academic year 1983.

TABLE 3.I.19

CHANGES IN NASF PER STUDENT, SCHOOLS OF PHARMACY, 1973-1983

	NASF PER STUDENT-- FALL, 1973	NASF PER STUDENT-- POST-CONSTRUCTION	NASF PER STUDENT-- 1983
TOTAL	86	89	94
Size of School			
Large	83	80	73
Medium	82	88	106
Small	108	121	125
Control			
Public	87	90	105
Private	83	86	69

E. INVENTORY OF INSTRUCTIONAL RESOURCES IN CLINICAL FACILITIES--FALL, 1973

1. Description

The 240,000 NASF of nonclinical instruction facilities found in pharmacy schools' major clinical affiliates represent nearly a 12% addition to the similar facilities controlled by those schools. Of the 66 hospitals and clinics reported, 45 made such facilities available for academic purposes, while 44 were used for training relating to ambulatory care and all were reported as used with relation to inpatient care. Recognizing that the typical pharmacy curriculum does not "utilize" inpatients and outpatients with the degree of intensity of, e.g., a medical school curriculum, the advent of the health-care team concept (including a pharmacist) and, less directly, training in a hospital pharmacy implies that the size (number of beds in a hospital) is becoming an increasingly germane measure of teaching resources in the pharmacy context.

Along these lines, pharmacy schools reported that, as major components in their education program, clinical affiliates represented 16,700 beds with an ADPL of 14,200. With regard to ambulatory care facilities, an aggregate of over 900,000 outpatient visits per year were reported -- which may, to a large extent, represent reporting of prescriptions filled. "Prescriptions filled" is, however, not the sole measure of outpatient training: respondents indicated that nearly 550 examining and treatment rooms -- 675 ambulatory patient stations in all -- were available for pharmacy students' use. Most of these resources were used by those schools of pharmacy considered by the researchers to have offered a "revised" curriculum (and most of the latter schools were publicly controlled).

With regard to the "nonclinical instruction facilities" in these clinical areas, it appears that they basically offered classroom, laboratory, library, and auditorium space (about 20% of the total for each type) with very minor percentages of the other room types reported. As would be anticipated from the above discussion, nearly 90% of these facilities were used by those schools offering "revised" curricula.

Adequacy of Nonclinical Instruction Facilities in Clinical Areas

a. Condition

Respondents reported that approximately 68% (166,000 NASF) of the current inventory of nonclinical facilities in clinical settings were "satisfactory for program purposes". Of the unsatisfactory space, well over half (56%) needed remodeling; while the remainder, some 20,000 NASF, required replacement. The percentage of satisfactory space was lowest in the public schools (66%) and the innercity locales (59%).

b. Instructional Facilities Needed in Clinical Settings

68,000 NASF of nonclinical instruction facilities were available at those 26 clinical associates reporting a need for additional space. An additional 80,000 NASF were perceived as needed, 38,000 of which were reported to be for relief of overcrowding. Twenty-five of the clinics representing 95% of the need, were reported by publicly controlled schools.

As we analyze each of the room types delineated by the survey instrument, we find that, for the 26 clinics in question, respondents wished to more than double the available square footage of administrative offices, and to increase by many times, the available research and research training space, and faculty offices (see Table 3.V.20). While the numbers of NASF involved were not large for any given room-type, the large factor by which these pharmacy schools desired to expand the facilities gives insight into the degree to which the needs were felt.

TABLE 3.V.20

PHARMACY SCHOOLS' PERCEIVED NEEDS FOR INSTRUCTIONAL FACILITIES IN CLINICAL AREAS

	NASF* AVAILABLE AT CLINICS REPORTING A NEED	NASF* NEEDED	NASF NEEDED AS A % OF NASF AVAILABLE
Classrooms	14	18	129
Class Laboratories	22	19	86
Research & Research Training	2	18	900
Library	12	5	42
Auditorium	8	5	62
Faculty Offices	1	13	1,300
Administrative Areas	2	5	250
Animal Facilities	0	1	--
TOTAL	68**	80**	118

* In thousands.

** Column sums are imprecise due to aggregation of a large number of round-off errors over the many hospitals involved in each detail line.

F. ONGOING AND FUTURE CONSTRUCTION AND REMODELING, AND THEIR EFFECT ON THE INVENTORY OF NONCLINICAL INSTRUCTION FACILITIES

1. Extent of Ongoing Construction

Seven of the 66 hospitals and clinics associated with the respondent pharmacy schools indicated that, as of the survey date, they were involved in new construction and remodeling whose total cost, approximately $120 million, was being incurred by the public sector. (A GSF figure is not given here since $90 of the $120 million in construction costs were reported without corresponding GSF figures.) Nearly half this effort (for the 170,000 GSF of new construction which were reported) was for replacement of obsolete facilities, and none was for enrollment expansion. Eighty-nine percent of the funds were supplied by state and local sources, with 10% obtained through borrowing.

2. Effects of Ongoing Construction

The net effect, *vis-a-vis* schools of pharmacy, of ongoing construction and remodeling in hospitals and clinics will be to add 160,000 NASF of nonclinical instruction facilities to the inventory that existed as of fall, 1973--an increase of 65%. On a percentage basis, this increase to 400,000 NASF will most impact the hospitals and clinics used by "large" schools, for whom it represents a factor-of-three (319%) addition to the 16,000 NASF reported for 1973. "Small" schools will also be significantly impacted, with the addition of 84,000 NASF (142% of the original inventory).

Hospitals and clinics associated with pharmacy schools in the public sector anticipate adding 71% as much space through ongoing construction programs as existed prior to these programs' initiation. The 224,000 NASF "post-construction inventory" of nonclinical instruction facilities in clinical areas is expected to rise to 382,000 NASF.

3. The 1983 Look Ahead

Since for the "1983 look-ahead", the instructions did not distinguish between patient-care areas and non-clinical instruction facilities in clinical areas, the projected 1983 inventory of 810,000 NASF is not strictly comparable with the 400,000 NASF reported for the "post-construction period". Assuming, however, that the estimates of various amounts of construction for each construction purpose apply to both patient-care and non-patient-care facilities, it is of interest to assess the planned activity in light of these purposes.

In the aggregate, the respective percentages (of planned construction) to be applied to the various purposes outlined by the survey instrument tend to follow the pattern evidenced by construction in progress as of the survey date. Almost none of the construction is marked for enrollment expansion, while the largest portion (66%) will again be for replacement of obsolete facilities. This latter figure, it should be noted, is influenced by the one very large replacement program (333,000 NASF) reported by the private sector, with the six programs in the public sector averaging 48% for replacement purposes. In sum, then, major clinical facilities construction efforts in support of pharmacy school programs will continue to upgrade rather than expand, the available nonclinical and clinical teaching facilities.

VI. SCHOOLS OF PODIATRIC MEDICINE

A. INTRODUCTION

Podiatry schools resemble schools of medicine and dentistry to the extent that their basic science training takes place primarily in the first two years of a four year education program. The following two years (the "clinical years") relate (in the sense of facilities) to the use of examining and treatment rooms and, to a lesser extent, to prosthesis and bio-mechanics laboratories. It is thus to be expected that in the aggregate, the schools of podiatric medicine will be seen to be heavily classroom and class laboratory instruction oriented; with a nearly equivalent concentration on examining and treatment rooms and (to a much lesser degree) inpatient care areas. Since, however, these schools are not heavily research oriented, it is also to be expected that the amount of research and research training space will be much less significant (as a percentage of the total facilities configuration) than for schools such as medicine and dentistry with the net result that the classroom and class laboratory instructional facilities will represent a far greater proportion of the available facilities than in the latter two professions--even though the intensity and nature of the training are similar.

Even though all 5 of the nation's schools of podiatric medicine responded with substantially completed survey instruments, their limited number reduces our ability to discuss them in the analytical manner desired. Rather, that which follows will be more expository in nature. Table 3.VI.1 describes the response rate in terms of the grouping parameters used in the discussion to follow. Size categories were assigned by choosing 0-250 Full-Time Equivalent students (FTE) to represent "small schools", 251-350 FTE's as "medium", and above 350 as "large".

TABLE 3.VI.1
THE UNIVERSE OF SCHOOLS OF PODIATRY

SCHOOLS OF: PODIATRY	NUMBER OF SCHOOLS IN UNIVERSE	NON-RESPONDENT			RESPON-DENTS (NO. 1 - NO.2)	NEW SCHOOLS RESPON-DING	ESTAB-LISHED RESPON-DENTS (#3-#4)	NON-SUB-STANTIVE FORMS ESTAB. SCHOOLS	RE-SPONSES USED IN ANALYSIS (#5-#6)	ANALYZED SCHOOLS AS A % OF ESTAB-LISHED UNIVERSE (7/(1-2a-4))
		NEW SCHOOLS	ESTAB-LISHED SCHOOLS	TOTAL (#2a+ #2b)						
	#1	#2a	#2b	#2c	#3	#4	#5	#6	#7	#8
TOTAL	5	0	0	0	5	0	5	0	5	100
Large	2	0	0	0	2	0	2	0	2	100
Medium	1	0	0	0	1	0	1	0	1	100
Small	2	0	0	0	2	0	2	0	2	100
Public	0	0	0	0	0	0	0	0	0	
Private	5	0	0	0	5	0	5	0	5	100
Innercity	4	0	0	0	4	0	4	0	4	100
Outercity	1	0	0	0	1	0	1	0	1	100
Suburban	0	0	0	0	0	0	0	0	0	
Rural	0	0	0	0	0	0	0		0	
Northeast	2	0	0	0	2	0	2	0	2	100
Northcentral	2	0	0	0	2	0	2	0	2	100
South	0	0	0	0	0	0	0	0	0	
West	1	0	0	0	1	0	1	0	1	100

B. THE FALL, 1973 INVENTORY OF NONCLINICAL INSTRUCTION FACILITIES CONTROLLED BY RESPONDENTS

1. Description

The 5 respondent schools of podiatric medicine reported 140,000 NASF (263,000 GSF) of "allocated" (controlled) instructional facilities, 94% of which were owned (or leased on a very long-term basis), and the remaining 6% rented or leased. The largest reported inventory, all of it "owned" by the respondent, was 34,000 NASF, twice the mean configuration size.

In an effort to better assure comparability of Net Assignable Square Footage (NASF) figures among the schools, the discussion henceforth excludes two room-types: "on-site patient care" due to its lack of fit within the framework of "nonclinical instruction facilities", and "other" space, due to the broad mix of space types it represents. Table 3.VI.2 displays how we derived, for discussion purposes, the 86,000 NASF of nonclinical instruction facilities.

TABLE 3.VI.2

DERIVATION OF THE FALL, 1973 INVENTORY OF NONCLINICAL INSTRUCTION FACILITIES--SCHOOLS OF PODIATRIC MEDICINE

1.	Number of Schools	5
2.	Owned GSF*	263
3.	Owned NASF*	131
4.	Rented/leased NASF	9
5.	Total (owned or rented) NASF	140
6.	"On-site patient care", and "other"	54
7.	Total NASF of nonclinical instruction space	86

* All GSF and NASF figures are in thousands.

The 86,000 NASF are distributed among the groupings of schools (e.g., by size and control) as displayed in Table 3.VI.3. By comparison with Table 3.VI.2, we find that none of the "on-site patient care" or "other" facilities are in quarters which are rented or leased.

TABLE 3.VI.3

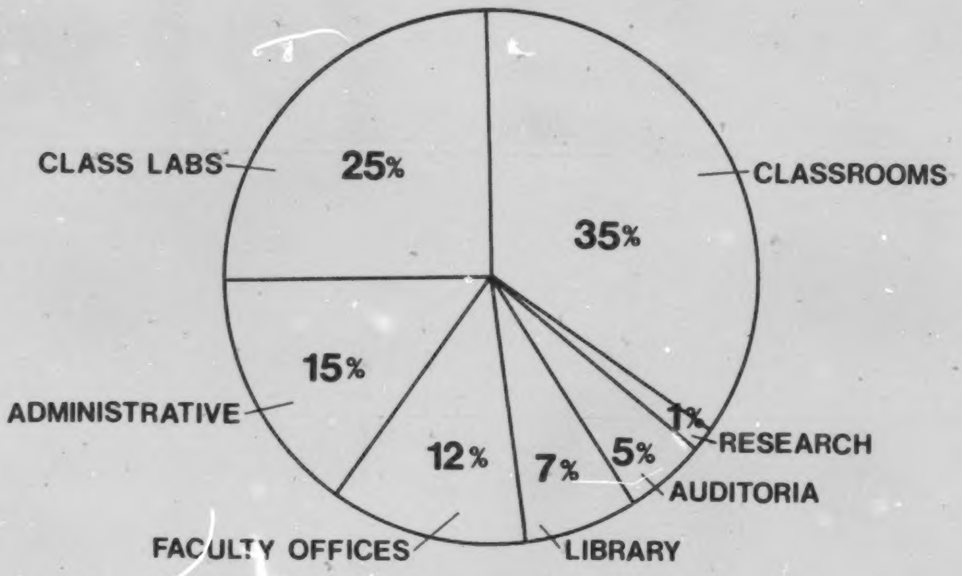
THE FALL, 1973 INVENTORY OF PODIATRY SCHOOLS' NONCLINICAL INSTRUCTION FACILITIES

	NUMBER OF SCHOOLS	OWNED NASF (000)	RENTED NASF (000)	TOTAL NASF (000)	AVERAGE NASF PER SCHOOL
TOTAL	5	77	9	86	17
Size of School					
Large	2	45	2	47	24
Medium	1	10	2	12	12
Small	2	22	5	27	14
Control					
Public	0	--	-	--	--
Private	5	77	9	86	17
Geographic Locale					
Innercity	4	43	9	52	13
Outercity	1	34	0	34	34
Suburban	0	--	-	--	--
Rural	0	--	-	--	--
Census Region					
Northeast	2	22	5	27	14
Northcentral	2	45	2	47	24
South	0	--	-	--	--
West	1	10	2	12	12

Sixty percent of the nonclinical NASF in schools of podiatric medicine were located in classrooms and class laboratories as shown in Figure 3.VI.A.

FIGURE 3.VI.A

DISTRIBUTION PROFILE OF NONCLINICAL INSTRUCTION FACILITIES FALL, 1973

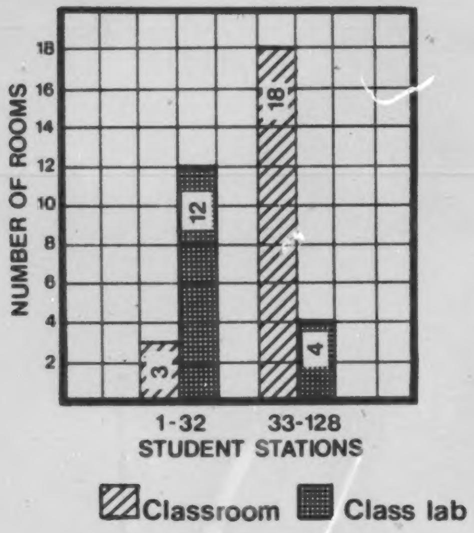


As is clear from the figure, and as noted in the introduction to this chapter, schools of podiatry were much less oriented toward research than were many of the schools. Only two rooms were reported by the five respondents as being predominantly devoted to research.

As seen in the following graph, schools of podiatry tend to utilize small class laboratories and larger classrooms. In the fall, 1973 configuration, there were three times as many "small" (1 - 32 student stations) class laboratories as "large" (more than 32) and six times as many large class rooms as small. Eleven of the "large" classrooms were of more than 64 stations.

FIGURE 3.VI.B

NUMBER OF CLASSROOMS AND CLASS LABORATORIES BY VARIOUS STUDENT CAPACITIES



In terms of square footage, the classrooms and class laboratories were similar. Differences in number of stations per room rest with the fact that a class laboratory student station, on the average, required more than twice the space that a classroom student station required.

TABLE 3.VI.4

NASF PER ROOM AND STUDENT STATION

	NASF (000)	NUMBER OF ROOMS	NUMBER OF STUDENT STATIONS	NASF PER ROOM	NASF PER STATION	STUDENT STATIONS PER ROOM
Classrooms	29	21	1,324	1,381	22	63
Class Laboratories	21	16	428	1,312	49	27
Research & Research Train.	1	2	4	1,000	--	2
Library	6	--	232	--	26	--
Auditoria	4	1	350	4,000	11	350
Faculty Offices	10	64	--	156	--	--

2. The Student Population Using the Inventory as of Fall, 1973

As of the start of the academic year 1973-1974, the total FTE enrollment of graduate and undergraduate students at schools of podiatric medicine was 1,555. Twenty-one of these students were reported as graduate students. As seen in Table 3.VI.5, nearly three-quarters of these students were situated in innercity locales.

TABLE 3.VI.5

ENROLLMENT AT SCHOOLS OF PODIATRIC MEDICINE--FALL, 1973

	NUMBER OF SCHOOLS	FTE UNDERGRADUATE PLUS GRADUATE	FTE PER SCHOOL
TOTAL	5	1,555	311
Size of School			
Large	2	814	407
Medium	1	283	283
Small	2	458	229
Geographic Locale			
Innercity	4	1,139	285
Outercity	1	416	416
Census Region			
Northeast	2	458	229
Northcentral	2	814	407
South	0	--	--
West	1	283	283

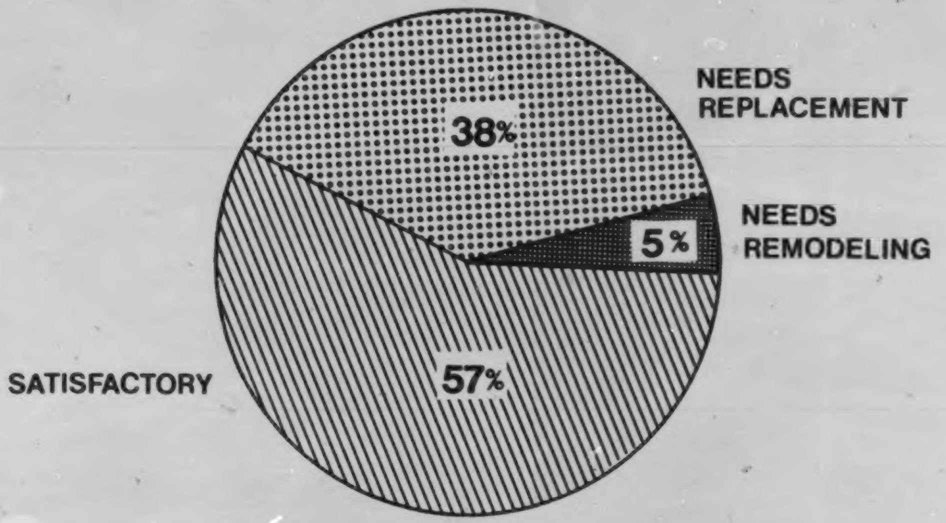
3. Adequacy of the Inventory

a. Condition of Space

The condition of space at schools of podiatric medicine was reported to be generally worse than at schools of other professions. Only 57% (49,000 NASF) of the total inventory was considered "satisfactory for program purposes" and a minimal amount of the unsatisfactory space (4,000 NASF) could be made satisfactory through remodeling. The remaining 33,000 NASF were reported to require replacement (see Figure 3.VI.C).

FIGURE 3.VI.C

CONDITION OF SPACE, SCHOOLS OF PODIATRIC MEDICINE--FALL 1973



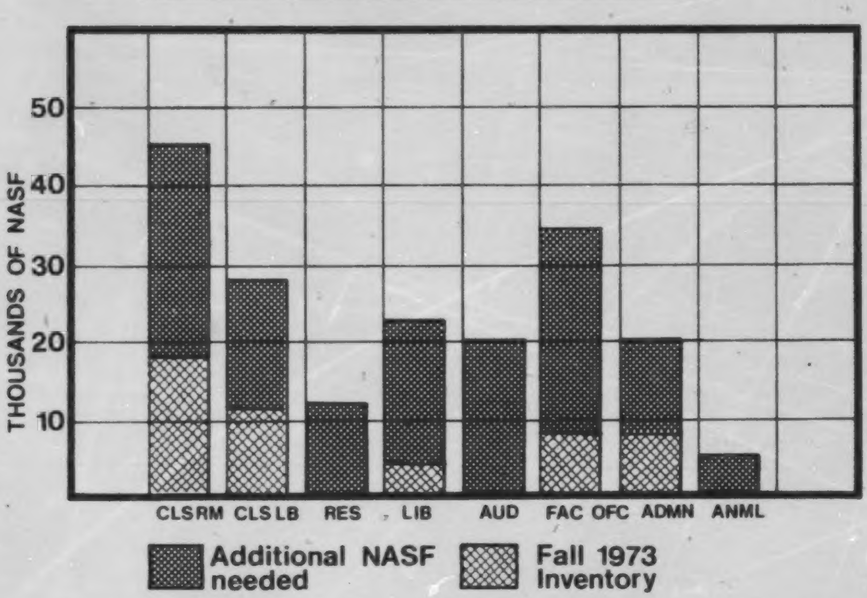
The percents of satisfactory space shown above are relatively consistent for all room types except faculty offices where only 30% of the space was considered satisfactory.

b. Need for Nonclinical Facilities as of Fall, 1973

As reflected above with respect to condition of space, four of the responding schools of podiatric medicine had expressed requirements for new space to accommodate their then-current enrollment. These four schools, with an aggregate inventory of 52 thousand NASF, perceived 120 thousand NASF to be needed, 231% of their fall, 1973 inventory. Unfortunately, one school that reported more than half the total space needed did not specify the reasons for this need. Most of the space listed by the other respondents, however, was required to relieve overcrowding. Since only 57% of the space was reported satisfactory, one may assume "poor condition" or "obsolescence" to be major concerns if the responses are to be consistent. The perceived needs, by type of space, are displayed in Figure 3.VI.D.

FIGURE 3.VI.D

COMPARISON OF SPACE NEEDS AND AVAILABILITIES



With respect to library facilities in particular, four schools answered the subjective question regarding "enrollment versus library capacity". Three of these schools, sixty percent of the podiatry schools' universe, stated that their libraries were highly overcrowded, the other indicating sufficient library facilities.

The five schools also reported, in total, the following "minimum" needs for resource categories defined in the survey instrument:

TABLE 3.VI.6

NEEDS (OTHER THAN NONCLINICAL INSTRUCTION FACILITIES), SCHOOLS OF PODIATRIC MEDICINE--FALL, 1973

	NUMBER OF SCHOOLS	NEED
Faculty (FTE)	5	104
Support Staff (FTE)	5	101
Operating Funds	5	$4,250,000
Equipment	5	$2,146,000
Hospital Beds	3	110
Examining Rooms	4	140

4. Resource Usage

a. NASF and Stations Per Student

The five schools of podiatric medicine reported 55 NASF per student in the aggregate, ranging from 33 to 82 on a per school basis. There was almost one station per student in classrooms (.85) and .28 stations per student in class laboratories. The space that was considered "allocated" was basically the only nonclinical instruction space available to the students since the five schools neither had available nor used joint-use facilities, nor were there such facilities available in owned or major affiliated hospitals and clinics (with the exception of a small amount of administrative and classroom area). As discussed in other sections, this lack of joint-use space is largely a function of the fact that all five schools are freestanding institutions. Typically, it is the public schools in health sciences centers or other multiple school environments that share space.

TABLE 3.VI.7

SPACE AND STATIONS PER STUDENT, SCHOOLS OF PODIATRIC MEDICINE--FALL, 1973

	NASF	NASF PER STUDENT	STATIONS PER STUDENT
TOTAL	86	55	--
Classrooms	29	19	.85
Class Laboratories	21	14	.28
Research & Research Train.	1	1	.00
Library	6	4	.15
Auditorium	4	3	.23
Faculty Offices	10	6	--
Administrative Offices	13	8	--
Animal Facilities	0	0	--

b. Usage of Classrooms and Class Laboratories

Use of classroom space was fairly evenly divided between basic biological and clinical sciences instruction (46% and 38%, respectively) with 16% used for mixed purposes. For class laboratories, the majority (87%) of the space was used for basic biological sciences instruction.

The caveats of PART 1 state that our purpose in computing room and student station utilization is not evaluative in nature but rather is for comparative analysis. In reviewing the utilization-related measures which follow, this purpose must be kept in mind since the figures presented--in particular, the percentages--will appear low.

This situation arises because to make the figures comparable, we used 2,080 hours as a substitute for the various-length academic years reported by respondents. Since the reported lengths of year were typically shorter than 2,080 hours, the effect is to depress the utilization percentages. The formula used is, in simple terms, given by:

$$\frac{\text{resource hours used}}{\text{resource hours "available"}} \times 100 = \text{\% utilization}$$

Essentially, the same formula is used whether the resource under analysis is a room or a student station (see Appendix G for the computational details). The effect of our substitution is to replace, with 2,080 hours, some smaller number in the denominator of the formula thereby decreasing the computed ratio in most cases. For example, in the case of room utilization, the denominator is changed from:

number of rooms X length of academic year
to:
number of rooms X 2,080.

In sum, then, it is the pattern in the percentages--rather than their absolute values--which are of importance.

Classrooms and class laboratories at schools of podiatric medicine were used to a relatively high degree in comparison with similar rooms of other professions. The average classroom was used 765 hours per year; while the average class laboratory was used 500 or 340 hours per year, depending upon whether it was general or special purpose.

TABLE 3.VI.8

MEAN HOURS OF USAGE, PODIATRY SCHOOLS' CLASSROOMS AND CLASS LABORATORIES--FALL, 1973

	CLASSROOMS			CLASS LABORATORIES		
	TOTAL HOURS' USAGE PER YEAR	NUMBER OF ROOMS	MEAN HOURS OF USAGE PER YEAR	TOTAL HOURS' USAGE PER YEAR	NUMBER OF ROOMS	MEAN HOURS OF USAGE PER YEAR
TOTAL	16,062	21	765	7,680	16	480
Size of School						
Large	7,092	10	709	2,784	7	398
Medium	3,960	4	990	2,400	3	800
Small	5,010	7	716	2,496	6	416
Geographic Locale						
Innercity	13,308	16	832	5,980	11	544
Outercity	2,754	5	551	1,700	5	340

According to our formulae, classrooms were used 35% of the "available" hours during the 2,080 hour year, while the student stations within those rooms were used 30% of the time. The class laboratory room use percentage is somewhat lower than that for the classrooms (23%). The station utilization figure of 40% is given for completeness, recognizing that, in theory, station utilization must approach room usage as an upper bound. Unfortunately, a number of usage-related data errors had not yet been corrected at the time of this writing, and in view of our small sample size, are large enough to impact the averages. The figures are, in any event, presented in Table 3.VI.9 so that the reader may gain insight into the pattern of these percentages across the various groupings of schools used in this discussion.

TABLE 3.VI.9

CLASSROOM AND CLASS LABORATORY "ROOM AND STATION UTILIZATION," SCHOOLS OF PODIATRIC MEDICINE--FALL, 1973

	CLASSROOMS		CLASS LABORATORIES	
	ROOM UTILIZATION (%)	STUDENT STATION UTILIZATION (%)	ROOM UTILIZATION (%)	STUDENT STATION UTILIZATION (%)
TOTAL	35	30	23	40
Size of School				
Large	31	36	19	41
Medium	48	22	38	61
Small	34	28	20	27
Geographic Locale				
Innercity	40	29	26	45
Outercity	22	33	16	26

c. Faculty Offices

While the average faculty member at schools of podiatric medicine is assigned approximately 68 NASF, variation about this mean is substantial, as seen in Table 3.VI.10. For individual schools, this measure ranged from 33 to 167 NASF per FTE faculty member.

TABLE 3.VI.10

FACULTY OFFICE SPACE PER FACULTY MEMBER, SCHOOLS OF PODIATRIC MEDICINE--FALL, 1973

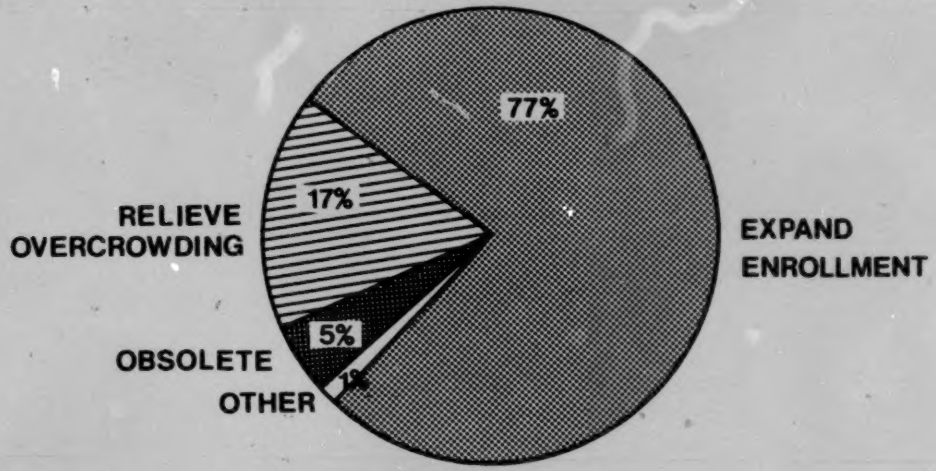
	NUMBER OF FTE FACULTY	NASF OF FACULTY OFFICE SPACE (000)	NASF PER FACULTY MEMBER
TOTAL	148	10	68
Size of School			
Large	52	5	96
Medium	32	2	63
Small	64	3	47
Geographic Locale			
Innercity	114	8	70
Outercity	34	2	59

C. ONGOING CONSTRUCTION AND REMODELING AND THE POST CONSTRUCTION INVENTORY

1. Extent, Purposes, and Cost

Two of the five schools reported ongoing construction programs totalling $14.6 million for 209,000 GSF. One of the two also reported a remodeling program of 8,000 NASF at a cost of $50,000. The larger of the two construction programs (149 thousand GSF) was being carried out for the purpose of expanding enrollment. Thus, 77% of the two programs were for the latter purpose (see Figure 3.VI.E).

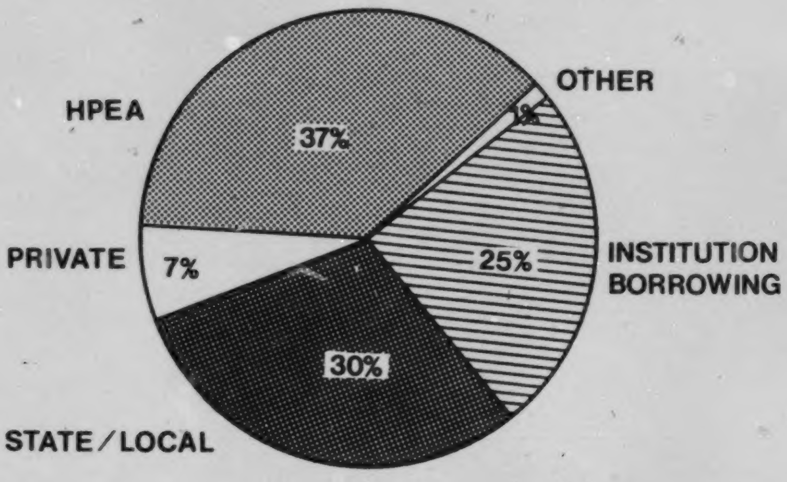
FIGURE 3.VI.E
PURPOSES OF ONGOING CONSTRUCTION AT TWO SCHOOLS OF PODIATRIC MEDICINE--FALL 1973



As seen in the following figure, three sources provided most of the funds for the two construction programs: state or local funds, HPEA construction grants, and institution borrowing (see Figure 3.VI.F).

FIGURE 3.VI.F

SOURCES OF FUNDS, FALL 1973 CONSTRUCTION



2. Effects of Ongoing Construction and Remodeling

Following the completion of the ongoing construction and remodeling programs, the nonclinical facilities inventory at schools of podiatric medicine will rise to 150,000 NASF from 86,000 NASF. In addition, 7,000 NASF of the rented inventory will have been vacated, leaving 2,000 NASF rented in the "post-construction" inventory. As may be seen in Table 3.VI.11, the changes for certain room-types--as a percentage of the fall, 1973 inventory, are substantial.

TABLE 3.VI.11

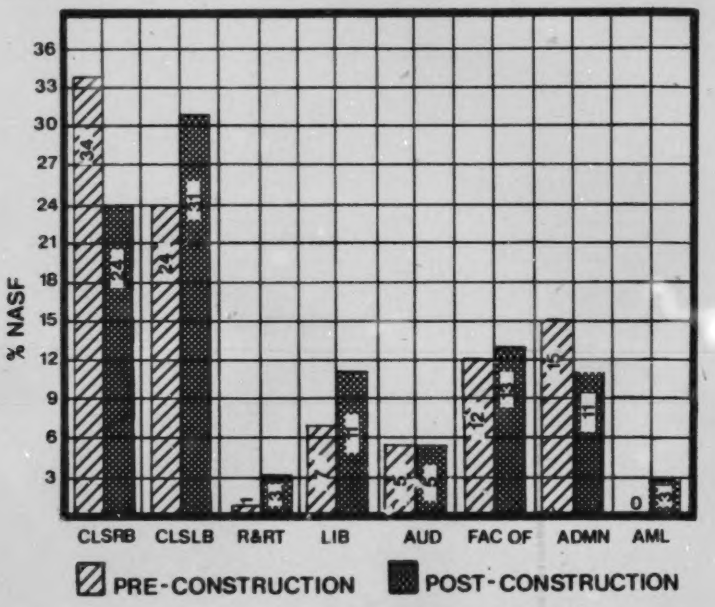
CHANGES IN CONTROLLED, NONCLINICAL INSTRUCTION FACILITIES, FALL 1973 TO "POST-CONSTRUCTION"

	NASF (000) 1973	NASF (000) POST-CONSTRUCTION	DIFFERENCE	% CHANGE
TOTAL	86	150	64	74
Classroom	29	36	7	24
Class Laboratory	21	46	25	119
Research & Research Train.	1	4	3	300
Library	6	16	10	167
Auditorium	4	7	3	75
Faculty Offices	10	20	10	100
Administrative Areas	13	16	3	23
Animal Facilities	0	4	4	--

Notwithstanding the large percentage changes in the various roon-types, the space distribution profile (i.e., percent of total space accounted for by each room type) would, following the completion of ongoing construction, appear similar to what it was before. The major difference would be a reversal of classroom and class laboratory proportions, with class laboratories assuming a more prominent role as seen in Figure 3.VI.G.

FIGURE 3.VI.G

PRE-CONSTRUCTION/POST-CONSTRUCTION SPACE DISTRIBUTION PROFILE



Class laboratories appear to be a major thrust of the construction ongoing as of fall, 1973. Fourteen new rooms (an 88% increase) were being built and, upon their completion, the average NASF per room was to be increased from 1,312 to 1,533. The class laboratory NASF/student ratio would also have been increased from 14 to 24. Faculty offices, which averaged 68 NASF per faculty member, were a second major thrust of the construction programs, with forty new offices being built, resulting in a post-construction ratio of 105 NASF per FTE faculty member.

With 2/3 of the enrollment growth occuring in the one school with the large enrollment expansion program, podiatry student enrollment will have increased by 21% following completion of the construction ongoing as of the survey date.

3. Post-Construction Needs

Four schools indicated a need for space over and above that being constructed or remodeled as of the survey date. In all, 64,000 NASF were reported as needed, indicating that ongoing construction programs had alleviated 47% of the need reported as of the fall of 1973. Table 3.VI.12 displays the need on a room-type by room-type basis. The relative magnitude of that need is highlighted by comparing it with the inventory of only those schools reporting a need.

TABLE 3.VI.12

POST-CONSTRUCTION FACILITIES NEEDS--SCHOOLS OF PODIATRIC MEDICINE

	TOTAL INVENTORY (000 NASF) (1)	INVENTORY OF SCHOOLS EXPRESSING A NEED (000 NASF) (2)	NASF NEEDED (000) (3)	COLUMN 3 AS A % OF COLUMN 2
TOTAL	150	58	64	110
Classrooms	36	16	16	100
Class Laboratories	46	13	10	77
Research & Research Training	4	1	7	700
Library	16	9	9	100
Auditoria	7	0	9	--
Faculty Offices	20	9	7	78
Administrative Areas	16	5	5	100
Animal Facilities	4	1	3	300

D. THE 1983 LOOK AHEAD

Unfortunately, uncorrected inconsistencies exist in the data regarding construction and remodeling planned by 1983. Basically, these questions concern purposes of construction as compared with projected enrollment growth. Two schools reported construction projects of 205 thousand NASF in total. Almost 2/3 of this space was estimated to be for expansion of enrollment. In contrast to this intent, the 1983 enrollment projection for these two schools showed no increase at all. On the other hand, the other three schools indicated enrollment increases large enough to bring the average increase (for the five schools) to 21%.

TABLE 3.VI.13
FALL, 1973 AND PROJECTED ENROLLMENT COMPARISONS

FALL 1973 HEADCOUNT	POST CONSTRUCTION HEADCOUNT	FALL, 1983 HEADCOUNT
1,555	1,887	2,278

E. INVENTORY OF CLINICAL FACILITIES AND NONCLINICAL INSTRUCTION FACILITIES IN CLINICAL AREAS--FALL, 1973

1. Nonclinical Instruction Facilities in Clinical Areas

Nonclinical space in the two clinical affiliates used by the schools of podiatric medicine amounted to only 1,000 NASF, primarily in administrative facilities. Two schools however, did report a need or desire for 8,000 NASF of this type, and 26,000 NASF were under construction at one hospital, perhaps indicating the beginnings of a trend in this aspect of podiatry schools' facilities configurations.

2. Clinical Resources

The schools of podiatric medicine were primarily oriented toward the use of outpatient clinics. Only one hospital was accessed as an inpatient source, and this 28 bed facility had an average daily patient load (census) of 17.

With respect to outpatient contact, the "on-site patient care areas" as defined in the survey, provided approximately three times the clinical material resources as did the "off-site" hospitals and clinics. Just over 100,000 outpatient visits per year were available for student training in the "on-site patient care" facilities. Patient stations, also, were about three times more numerous in the on-site facilities, 145 versus 55.

Table 3.VI.14 summarizes the patient care data in the "on-site" areas and the "off-site" hospitals and outpatient clinics.

TABLE 3.VI.14

FTE ENROLLMENT AT PODIATRY SCHOOLS, AND THE CLINICAL TEACHING RESOURCES REPRESENTED BY "ON-SITE" AND "OFF-SITE" CLINICS

	NUMBER OF OUTPATIENT CLINICS	NUMBER OF OUTPATIENT STATIONS	NUMBER OF OUTPATIENT VISITS	FTE ENROLLMENT	VISITS PER STUDENT	STUDENTS PER OUTPATIENT STATION
"On-Site" Care	3	145	100,054	1,555	64	11
Hospital/Clinic	2	55	33,500	1,555	22	28
Total	5	200	133,554	1,555	86	8

It should be noted that in the above table, the per student clinical resources are understated to the extent that patient contact is usually not a part of the podiatry curriculum in the early years of the program, and total FTE enrollment has been used in the denominator of the various ratios of resources per student.

F. ONGOING CONSTRUCTION AND REMODELING AND THE POST-CONSTRUCTION INVENTORY OF CLINICAL INSTRUCTION FACILITIES

1. Extent, Purposes, and Cost

One construction and remodeling program was reported by a hospital used as a major component of the teaching program at one school of podiatric medicine. Involving some 26,000 NASF of nonclinical instruction facilities to become available for use by the school involved, the program's $3.5 million funding was obtained primarily through borrowing (94%) with the remainder ($200,000) supplied by the school itself and by a philanthropic organization.

2. Effects of Ongoing Construction and Remodeling

The nonclinical instruction facilities inventory, increased to 27,000 NASF, will be comprised of 45% classroom and class laboratory facilities, and most of the remainder divided among library, faculty office, and administrative office facilities.

The reported construction will serve to increase not only the nonclinical instruction facilities, but the patient contact resources as well. Thus, five inpatient beds will be added to the 28 bed inventory discussed previously; and the number of ambulatory patient stations will be increased from 200 to 250 as a result of the ongoing construction. No other construction of clinical teaching space is planned through 1983.

VII. SCHOOLS OF PUBLIC HEALTH

A. INTRODUCTION

The distinguishing feature of schools of public health seems to be that they are, more than any other profession surveyed, similar to that which the layman might consider a "typical graduate school". There is virtually no clinical component in a Public Health curriculum, and the primary thrust of educational activity relates to classroom and class laboratory instruction. Although the 8 or 9 major curricula offered by schools of Public Health tend, according to those knowledgable in the field, to require differing facilities, these differences would not be reflected by our data due to the level of detail at which said differences exist (e.g., the special purpose facilities required for the study of health statistics versus the study of nutrition or epidemiology would not be reflected through the survey instrument's simplistic categorization of "general" versus "special" purpose class laboratory).

Under the hypothesis that enrollment has impact not only on the amount of educational facilities required, but the relative amounts of various room types to be found in a given configuration, the schools of public health were categorized as "small", "medium", or "large" as a function of their full time equivalent enrollment. As in the cases of the other professions surveyed, a frequency distribution of reported enrollment was utilized in developing a set of "natural" ranges for the respective size groups: small, 0-200; medium, 201-400; and large, above 400. Table 3.VII.1 shows these and other categorizations, so that the response rate (and the nature of respondents) can be used to place the discussion which follows within the perspective of the 18 public health schools in the nation.

One new school of Public Health, reporting a fall, 1973 enrollment level of 32 students, indicated a controlled inventory of 9,000 NASF of which 78% was rented. As of the survey date, the reported enrollment level engendered a perceived need for 5,000 NASF of additional facilities. No enrollment growth projections nor construction plans were available as of the survey closeout date.

TABLE 3.VII.1
DERIVATION OF SURVEY RESPONSE RATE FOR SCHOOLS OF PUBLIC HEALTH

SCHOOLS OF: PUBLIC HEALTH	NUMBER OF SCHOOLS IN UNIVERSE	NON-RESPONDENT			RESPONDENTS (NO. 1 - NO.2)	NEW SCHOOLS RESPONDING	ESTABLISHED RESPONDENTS (#3-#4)	NON-SUBSTANTIVE FORMS ESTAB. SCHOOLS	RESPONSES USED IN ANALYSIS (#5-#6)	ANALYZED SCHOOLS AS A % OF ESTABLISHED UNIVERSE (7/(1-2a-4))
		NEW SCHOOLS	ESTABLISHED SCHOOLS	TOTAL (#2a+ #2b)						
	#1	#2a	#2b	#2c	#3	#4	#5	#6	#7	#8
TOTAL	18	0	5	5	13	1	12	0	12	71
Large	3	0	1	1	2	0	2	0	2	67
Medium	7	0	2	2	5	0	5	0	5	71
Small	8	0	2	2	6	1	5	0	5	71
Public	12	0	4	4	8	1	7	0	7	64
Private	6	0	1	1	5	0	5	0	5	83
Innercity									6	
Outercity									6	
Suburban									0	
Rural									0	
Classical									12	
Revised									0	
Northeast	5	0	1	1	4	0	4	0	4	80
Northcentral	2	0	0	0	2	1	1	0	1	100
South	6	0	3	3	3	0	3	0	3	50
West	5	0	1	1	4	0	4	0	4	80

B. THE FALL, 1973 INVENTORY OF NONCLINICAL INSTRUCTION FACILITIES CONTROLLED BY RESPONDENTS

1. Description

The 12 degree-granting respondent schools of public health reported 999,000 NASF (1.51 million GSF) of "allocated" (controlled) nonclinical instruction facilities. To assure comparability of the NASF figures among the schools, the analysis henceforth excludes "on-site patient care" and "other" facilities in view of their mixed nature and meaning to various respondents. Table 3.VII.2 displays how the 916,000 NASF of nonclinical instruction facilities used in the subsequent analysis were derived from the 999,000 NASF reported.

TABLE 3.VII.2

DERIVATION OF PUBLIC HEALTH SCHOOLS' ANALYZABLE INVENTORY OF NONCLINICAL INSTRUCTION FACILITIES

1.	Number of Schools	12
2.	Owned GSF*	1,511
3.	Owned NASF*	844
4.	Rented/leased NASF	155
5.	Total (owned or rented) NASF	999
6.	Less "on-site patient care" and "other"	83
7.	Total NASF of nonclinical instruction space	916

* All square footage figures are in thousands.

Of the 916,000 NASF of nonclinical instruction facilities controlled by schools of public health, 84% were owned (or leased on a very long-term basis), and the remaining 16% rented or leased. The largest reported inventory, all of it "owned" by the respondent, was just under 200 thousand NASF. The mean configuration size, 76,000 NASF, was nearly three times the size of the smallest reported inventory. Configuration size does not appear to vary with "locale" (see Table 3.VII.3), but when the schools are grouped by control, the "average" publicly controlled school is somewhat smaller than its counterpart in the private sector.

TABLE 3.VII.3

NONCLINICAL INSTRUCTION FACILITIES AT SCHOOLS OF PUBLIC HEALTH, FALL, 1973

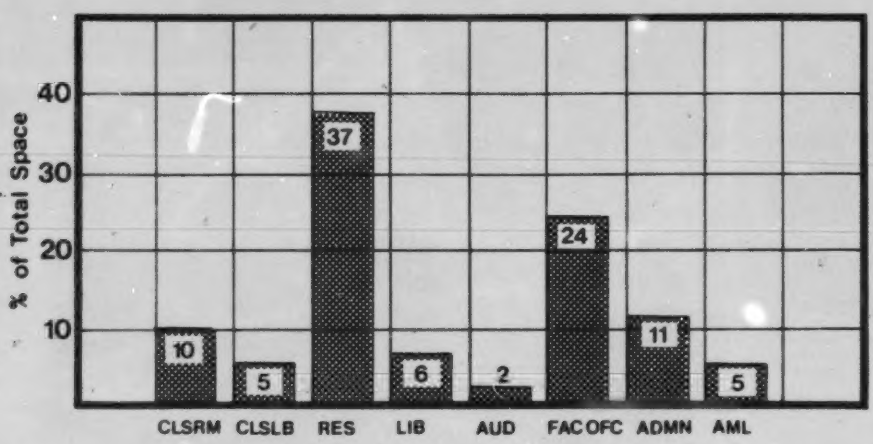
	NUMBER OF SCHOOLS	TOTAL NASF (000)	OWNED NASF (000)	RENTED NASF (000)	AVERAGE NASF PER SCHOOL (000)
TOTAL	12	916	772	144	76
Size of School					
Large	2	280	246	34	140
Medium	5	446	402	44	89
Small	5	190	124	66	38
Control					
Public	7	432	354	78	62
Private	5	484	418	66	97
Geographic Locale					
Innercity	6	456	363	93	76
Outercity	6	460	409	51	77
Suburban	0	--	--	--	--
Rural	0	--	--	--	--
Census Region					
Northeast	4	356	317	39	89
Northcentral	1	43	40	3	43
South	3	315	254	61	105
West	4	202	161	41	51

The distribution profile" of the percentages of space considered "classroom", "class laboratory", etc. is fairly constant as the twelve public health schools used in the analysis are grouped according to size, locale, control, and so on. Figure 3.VII.A depicts these percentages.

FIGURE 3.VII.A

PUBLIC HEALTH SCHOOLS' SPACE DISTRIBUTION PROFILE

FALL, 1973



One major departure from this profile appears in the greater relative availability of research and research training space in the private schools (44%) than for the public schools (30%). In both cases, the apparent commitment to research and research training rivals that of medical schools from the standpoint of the percentage distribution of room-types.

Table 3.VII.4 contains the aggregated responses of public health schools to the questions concerning square footage per room and station. Classroom and auditorium figures tend toward constancy over all the professions surveyed, although class laboratories reported here tend toward the small side by a factor of two, both in terms of square footage and number of stations.

TABLE 3.VII.4

NASF PER ROOM AND STATION, SCHOOLS OF PUBLIC HEALTH

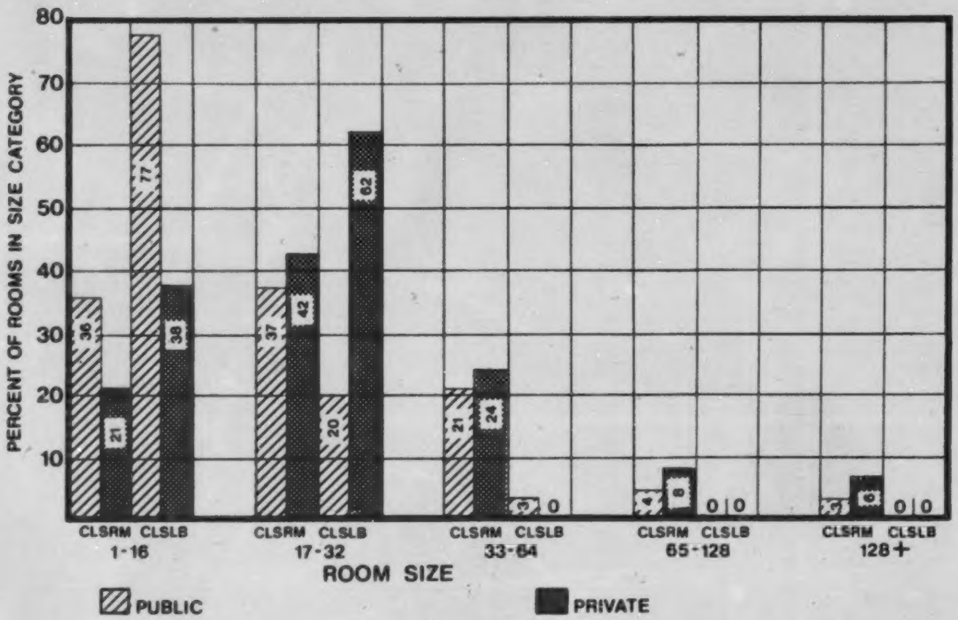
FALL, 1973

	NASF (000)	NUMBER OF ROOMS	NUMBER OF STUDENT STATIONS	NASF/ STATION	NASF/ ROOM	STATIONS/ ROOM
Classrooms	91	144	4,360	21	632	30
Class Laboratories	44	85	1,060	41	578	12
Research & Research Train.	341	967	1,168	269	353	1.2
Library	55	--	998	55	--	--
Auditoria	18	6	1,438	11	2,667	240
Faculty Offices	225	1,375	--	--	161	--

The distribution of classroom and class laboratory capacities at schools of public health is heavily weighted toward the smaller size categories for the publicly controlled schools, while the privately controlled schools report a larger portion of their rooms in the larger size categories. This unexplained but obvious difference is detailed in Figure 3.VII.B.

FIGURE 3.VII.B

THE EFFECT OF CONTROL OF PUBLIC HEALTH SCHOOL ON THE DISTRIBUTION OF CLASSROOMS AND LABORATORIES, FALL, 1973



2. The Student Population Using the Current Inventory

The responding schools of public health indicated that the total FTE enrollment as of the Fall, 1973 was 3,254. Just over 63% of the students attended publicly controlled schools, with the remaining 37% enrolled in the private sector. Just under half (44%) of the students were reported to be located in innercity settings, with the remainder in outercity locales.

TABLE 3.VII.5

FTE ENROLLMENT OF PUBLIC HEALTH SCHOOLS--FALL, 1973

	NUMBER OF SCHOOLS	FTE ENROLLMENT	AVERAGE FTE PER SCHOOL
TOTAL	12	3,254	271
Size of School			
Large	2	934	467
Medium	5	1,516	305
Small	5	804	161
Control			
Public	7	2,061	294
Private	5	1,193	239
Geographic Locale			
Innercity	6	1,435	239
Outercity	6	1,819	303
Census Region			
Northeast	4	808	202
Northcentral	1	356	356
South	3	1,103	368
West	4	987	247

3. Adequacy of the Inventory

a. Condition of Space

Just under 81% of the 916,000 NASF of public health schools' nonclinical instruction facilities were reported to be "satisfactory for program purposes". Of the remaining 19% (175,000 NASF), 99,000 were perceived as needing replacement (prior to the effects of current construction programs) and 76,000 NASF could be brought to a satisfactory state through remodeling. There is a pronounced but irregular relationship between the size of FTE enrollment and the reported condition of space, with small schools perceiving only 108,000 of their 190,000 NASF inventory to be "satisfactory for program purposes" (see Table 3.VII.6).

When the respondent population is divided according to "locale of school" the portion of space reported as "unsatisfactory" is largest for innercity schools (33%). Representing some 150,000 NASF, this space is split almost evenly between "needing remodeling" and "needing replacement".

TABLE 3.VII.6
CONDITION OF SPACE IN SCHOOLS OF PUBLIC HEALTH--FALL, 1973

	TOTAL NASF (000)	SATISFACTORY		NEEDS REMODELING		NEEDS REPLACEMENT	
		NASF (000)	%	NASF (000)	%	NASF (000)	%
TOTAL	916	741	81	76	8	99	11
Size of School							
Large	280	195	70	70	25	15	5
Medium	446	438	98	5	1	3	1
Small	190	108	57	1	1	81	42
Control							
Public	432	374	87	5	1	53	12
Private	484	367	76	71	15	46	9
Geographic Locale							
Innercity	456	304	67	71	16	81	17
Outercity	460	437	95	5	1	18	4

The publicly controlled schools reported somewhat more satisfactory space (on a percentage basis) than did the private schools (87 versus 76%). Thus, as apparent in Table 3.VII.6, even though nearly half the inventory of nonclinical instruction facilities were controlled by the public sector, the number of NASF needing remodeling or replacement is much greater for the private sector.

The problem of unsatisfactory condition, most prevalent in the small schools of public health, was spread over most room-types constituting their nonclinical instruction facilities inventory. However, classrooms, research and research training space, faculty office space, and auditoria ranged between 48% and 67% unsatisfactory, and were thereby the greatest contributors to the problem.

b. Need for Nonclinical Facilities as of Fall, 1973

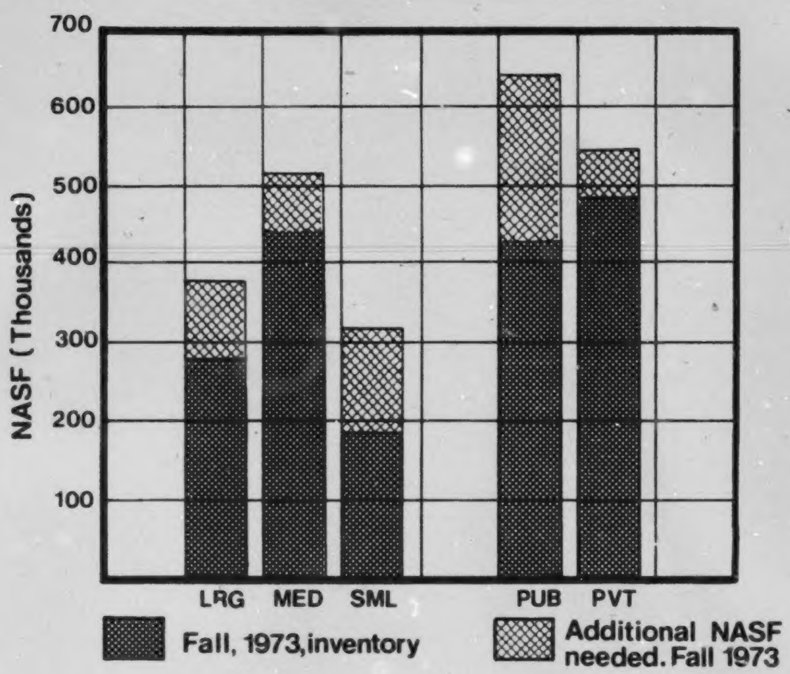
Although a portion of the facilities need which existed as of the survey date would be mitigated by the ongoing construction and remodeling programs of respondents, their perceptions of need at that time give us insight into the facilities configurations felt to be necessary for satisfactorily accommodating their then-existing enrollment.

In all, seven schools of public health perceived a need for 269,000 additional NASF of nonclinical instruction facilities. When expressed as a portion of the aggregate fall, 1973 inventory, this need was over 29% of that inventory. More poignantly, perhaps, it was 53% of the inventory of those schools expressing a need for space.

As may be seen in Figure 3.VII.C, the publicly controlled schools reported the greatest portion of the perceived needs, a portion which, if fulfilled, would bring the public sector above the private sector in terms of total NASF. By the same token, the need reported by the private schools represents nearly 60% of their total availability of nonclinical instruction facilities as of the survey date.

FIGURE 3.VII.C

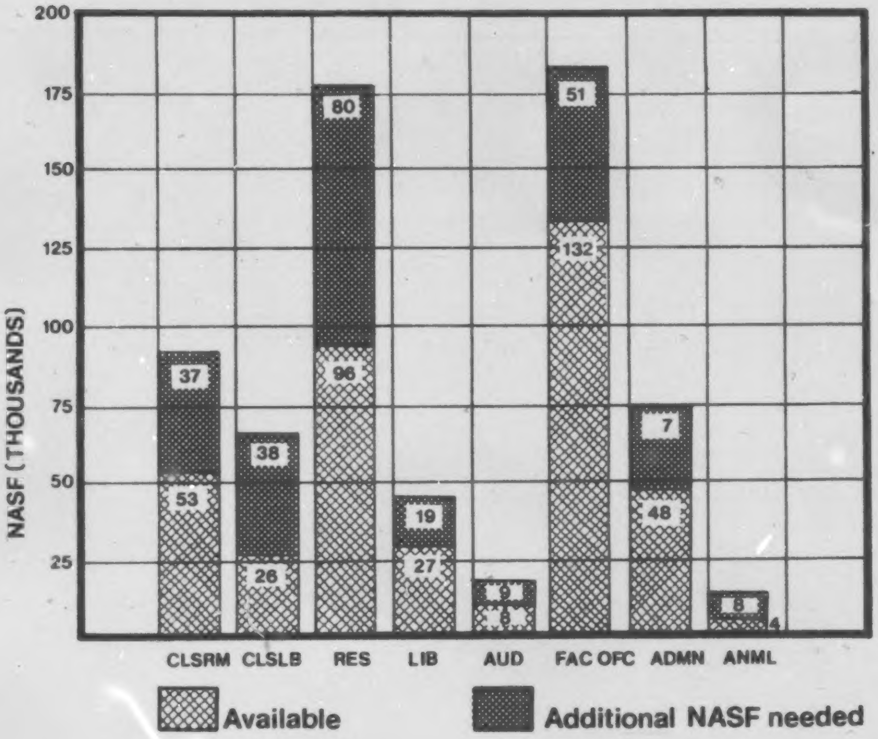
PUBLIC HEALTH SCHOOLS' PERCEIVED NONCLINICAL FACILITIES NEEDS AS OF FALL, 1973



Of the total perceived need, 179,000 NASF (67%) was considered to be primarily due to overcrowding. Facilities obsolescence, primarily focused in faculty offices and administrative areas, accounted for 51,000 NASF of the overall need, with the remaining 39,000 NASF divided nearly equally between the problems of poor condition and "missing" from certain respondents' facilities configurations.

The "desired" space distribution profile (obtained by adding "needs" to the 1973 inventory) was little different from that which existed as of the survey date, either in the aggregate, or upon grouping of schools according to our analysis parameters. Using, as a base, the NASF of facilities "allocated" to only those schools reporting a need, Figure 3.VII.D gives insight into the degree to which these needs were felt by the schools involved.

FIGURE 3.VII.D
COMPARISON OF ADDITIONAL NASF NEEDED WITH ALLOCATED NASF OF THOSE PUBLIC HEALTH SCHOOLS WITH A NEED--FALL, 1973



With regard to library facilities in particular, five of the nine respondents who answered the question concerning "enrollment versus library capacity" indicated either that a "good match" existed between available library space and enrollment, or that additional students (20% or more) would not adversely impact the use of the library. The remaining 4 respondents to the question perceived either "modestly" or "highly" overcrowded conditions in library space, with equal frequency. All of the latter figures, on a percentage basis, held constant as a function of size and control of school.

The survey instrument also attempted to gain an overview of that which the respondents considered the minimum non-facilities need for satisfactory accommodation of their fall, 1973 enrollment. For the 9 schools responding to this question, the needs most often mentioned (7 schools) were those for additional faculty and support staff (306 and 337, respectively), with the second most frequently mentioned need (6 schools) that for an additional $1.2 million in operating funds (see Table 3.VII.7).

TABLE 3.VII.7

PUBLIC HEALTH SCHOOLS' MINIMUM NON-FACILITIES NEEDS FOR ACCOMMODATING FALL, 1973 ENROLLMENT

	NEEDED FTE FACULTY	NEEDED SUPPORT STAFF	OPERATING FUNDS ($000)	EQUIPMENT FUNDS ($000)
Number of Schools	7	7	6	4
Total Need	306	337	1,240	253
Control				
Public	37	65	400	20
Private	269	272	840	233

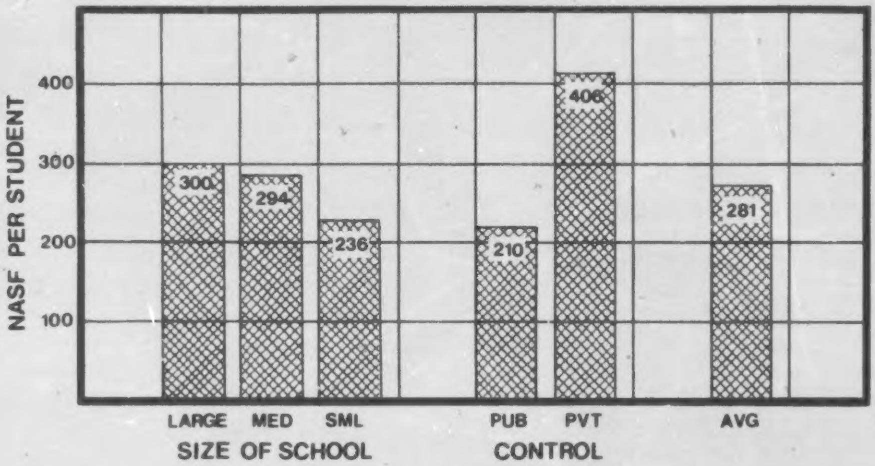
4. Resource Usage

a. Space and Stations Available per Student

Respondents indicated that the average NASF of nonclinical instruction facilities per student was 281, ranging as high as 745 and as low as 121 NASF per student. Space per student tended to vary greatly as a function of control of school, and slightly with size of school, as is apparent from Figure 3.VII.E.

FIGURE 3.VII.E

NASF PER STUDENT BY SIZE AND CONTROL, SCHOOLS OF PUBLIC HEALTH--FALL, 1973



The wide difference between the sectors' figures is due in part to the heavy research orientation of some privately controlled schools, a number of which are highly prestigious. Table 3.VII.8 details the NASF per student for each room-type, as a function of the various grouping parameters used in this analysis.

TABLE 3.VII.8

NASF PER STUDENT BY ROOM-TYPE, SCHOOLS OF PUBLIC HEALTH--FALL, 1973

	TOTAL	CLASSROOM	CLASS LABORATORY	RESEARCH & RESEARCH TRAINING	LIBRARY	AUDITORIUM	FACULTY OFFICE	ADMIN-ISTRATIVE OFFICE	ANIMAL FACILITIES
TOTAL	281	28	14	105	17	6	68	32	14
Size of School									
Large	300	37	15	99	16	5	76	30	21
Medium	294	20	15	122	16	7	67	36	11
Small	236	31	10	80	19	4	62	26	9
Control									
Public	210	21	13	63	14	1	54	37	7
Private	406	40	14	177	23	13	93	23	25
Geographic Locale									
Innercity	318	42	13	114	21	5	75	30	21
Outercity	253	17	14	98	14	6	63	33	8

Classroom stations per student averaged 1.34, with a high of 3.33 and a low of .11. Stations per student figures have a tendency to decrease as schools decrease in size, while the private sector reported a somewhat higher "stations per student" average for classrooms than schools of the public sector. Finally, innercity schools exhibited nearly three times the stations per student than did outercity schools, as seen in Table 3.VII.9.

TABLE 3.VII.9
CLASSROOM AND CLASS LABORATORY STATIONS PER STUDENT, SCHOOLS OF PUBLIC HEALTH--FALL, 1973

	CLASSROOM STATIONS	CLASSROOM STATIONS PER STUDENT	CLASS LABORATORY STATIONS	CLASS LABORATORY STATIONS PER STUDENT
TOTAL	4,360	1.34	1,060	.34
Size of School				
Large	1,658	1.78	361	.39
Medium	1,708	1.13	498	.33
Small	994	1.24	201	.32
Control				
Public	2,318	1.12	608	.32
Private	2,042	1.71	452	.38
Geographic Locale				
Innercity	2,896	2.02	465	.37
Outercity	1,464	.80	595	.33

Class laboratories, although exhibiting the above patterns, tended to show them very weakly, and in fact form nearly a constant ratio in comparison with the fluctuations observed in classroom stations per student.

b. Usage of Classrooms

One of the major differences between schools of public health and the other respondents to this survey is the nature of their instruction in classroom and class laboratory facilities. While for basic biological sciences instruction in classrooms of other health professions schools, 80% is the typical figure given, schools of public health report 13%: and while the amount of classroom usage for pursuits other than the biological or clinical sciences is typically 0 - 10% at other health professions schools, for public health it is 76%.

The average classroom was used 724 hours during the academic year, with schools in the public sector reporting three times the usage, per room, as schools in the private sector. Publicly controlled schools averaged 1,062 hours of usage per classroom (per year), while schools in the private sector averaged only 358 hours per year (see Table 3.VII.10).

TABLE 3.VII.10

USAGE OF CLASSROOMS, SCHOOLS OF PUBLIC HEALTH--FALL, 1973

	TOTAL HOURS* OF USAGE PER YEAR (000)	NUMBER OF ROOMS	MEAN USAGE PER YEAR (HOURS)
TOTAL	109	150	724
Size of School			
Large	36	49	739
Medium	39	59	664
Small	33	42	789
Control			
Public	83	78	1,062
Private	26	72	358
Geographic Locale			
Innercity	57	81	699
Outercity	52	69	753

* Sums for each group may not equal total due to round-off error.

Classroom usage tended to increase only slightly with increasing room size, and may be considered invariant as a function of size of room. This constancy appears to hold for each of the various groupings used in the analysis -- and even the large difference between public and private schools' usage of classrooms is maintained for each room size.

Before discussing the results of our room-use and student station utilization computations, we recall the caveats of PART 1 in which we noted that our purpose in such computations was that of comparative analysis. Added to the fact that the public health curriculum includes a significant amount of field training (thereby depressing the utilization percentages), our method substitutes 2,080 hours for the academic year reported by respondents. Since 2,080 hours (40 hours x 52 weeks) is greater than the typical academic year, the result is a further lowering of the utilization rates. This occurs since our utilization formula is given, in essence, by:

$$\frac{\text{resource hours used}}{\text{resource hours available}} \times 100 = \%\ \text{utilization},$$

whether the resource being analyzed is rooms or student stations. "Hours available" would ordinarily have been respondents' reported "academic year", but the 2,080 hour substitution is an increase in the denominator of the formula, and it thus depresses the results (see Appendix G for the computational details of the method).

Room utilization, the percentage of the "available" hours that the rooms are used during the academic year, averaged 32% for the classrooms of the 11 respondent schools of public health for whom room-use data were complete. Public schools were as much above this mean figure as private schools are below it, reporting 48% and 17% room utilization, respectively (a result anticipated from the analysis of average hours of room-use per year). .

Classroom student station utilization (occupancy) figures averaged 19%, ranging from 7 to 45%. Schools in the public sector showed equal station utilization to those in the private sector. Recalling the much greater "mean hours per year" usage figure for publicly-controlled classrooms, the implication is that schools of the public sector are utilizing smaller-group teaching methods (also inferred from a 4:1 student to teacher ratio) not in concert with the room-sizes (number of stations) which existed in their fall, 1973 inventory (see Table 3.VII.11).

TABLE 3.VII.11

UTILIZATION OF CLASSROOMS AND CLASSROOM STUDENT STATIONS, SCHOOLS OF PUBLIC HEALTH--FALL, 1973

	ROOM UTILIZATION (%)	STUDENT STATION UTILIZATION (%)
TOTAL	32	19
Size of School		
Large	36	13
Medium	32	20
Small	26	29
Control		
Public	48	19
Private	17	19
Geographic Locale		
Innercity	28	14
Outercity	36	29

NOTE: While station utilization (occupancy) can theoretically be no greater than room utilization at a particular school, occasionally, as above (small schools, private), a group of schools exhibits this anomaly. It occurs here because the eleven schools used in the room-use computations were not the same used in the computations for station use; and with the small sample sizes involved in a given grouping, each school has a marked impact on the group mean.

As we group the schools by size category, we find that station utilization for classrooms tends to increase with decreasing school size, from 13% (large schools) to 29% for the small schools. Since only the large schools typically reported the larger sized classrooms, the major portion of the hypothesized mismatches between room size and teaching group size may lie with these larger schools. This hypothesis is strengthened by virtue of the opposite pattern of room-utilization: it is highest at the larger schools, an expected result given small group teaching--and the resulting requirement to more heavily utilize the existing large rooms.

c. Class Laboratory Utilization

Given the nature of the typical public health curriculum, class laboratories were used to a negligible degree for clinical sciences instruction, with respondents indicating an equal division in space usage between "basic sciences" and "other" purposes. The average room, whether general or special purpose, was used upward of 750 hours per year.

TABLE 3.VII.12

CLASS LABORATORY USAGE, SCHOOLS OF PUBLIC HEALTH--FALL, 1973

	NUMBER OF CLASS LABORATORIES	TOTAL HOURS USAGE PER YEAR (000)	MEAN HOURS OF USAGE PER YEAR	ROOM UTILIZATION (%)
TOTAL	85	64	753	36
Size of School				
Large	23	15	652	32
Medium	43	31	721	35
Small	19	18	947	45
Control				
Public	56	46	821	40
Private	29	18	621	29
Geographic Locale				
Innercity	35	26	743	36
Outercity	50	38	760	36

As may be seen in Table 3.VII.12, percent room utilization varies strongly with school size and control. However, in the case of school size, the pattern of differences is the converse of that exhibited by classroom utilization.

Class laboratory occupancy (station utilization) figures will not be dealt with herein, due to the great impact (given our small sample sizes) of four large data errors which had not been resolved as of this writing. It can only be stated with some certainty that, even with the aggregate utilization rates masked as they are, resolution of the errors would have resulted in figures closely approaching the class laboratory room-use figures described above.

d. Faculty Offices

The total NASF of faculty office space per faculty member was approximately 196. Schools of the public and private sectors reported being nearly equidistant from the mean on this measure, with the private sector reporting at the lower end of the scale. The relationships exhibited between "size" and locale of school and NASF per faculty member did not follow a specific pattern, although differences among these groups were quite distinct (see Table 3.VII.13).

TABLE 3.VII.13

NASF PER FACULTY, SCHOOLS OF PUBLIC HEALTH--FALL, 1973

	SCHOOLS REPORTING FACULTY	NASF OF FACULTY OFFICE SPACE (000)	FTE FACULTY	NASF PER FTE FACULTY MEMBER
TOTAL	11	203	1,038	196
Size of School				
Large	2	71	446	159
Medium	4	82	314	261
Small	5	50	278	179
Control				
Public	6	92	431	213
Private	5	111	607	182
Geographic Locale				
Innercity	5	88	516	171
Outercity	6	115	522	220

e. Animal Facilities

The 10 schools of public health responding to the relevant questions indicated that 36% of their animal facilities were used for instructional purposes and the remainder (64%) were used for research. The larger schools in the public sector indicated a higher than average instructional usage (63%), while the smaller schools were much more research oriented in their animal facilities usage (86%). While it is apparent that it is subject-matter variables which are causing much of the variation in this and other data, such variables were outside the scope of the current effort.

f. Joint-Utilization of Classrooms and Class Laboratories

While schools of public health indicated a large availability of joint-use classroom facilities (56 rooms), it is found that their usage of such space was but a small portion of their overall usage of corresponding "allocated" facilities. The ratio of "joint-use" room hours to "allocated" room-hours was, for the subpopulation under analysis, under 8% for classroom-type instructional space. Joint-usage of class laboratories was negligible. Public health school-controlled class laboratories were not used by other students, and only negligible use of controlled classrooms (90 hours per year) was reported.

C. ONGOING CONSTRUCTION AND REMODELING, AND THE POST CONSTRUCTION INVENTORY

One construction program, and one remodeling program, were reported by the respondent schools of public health, thereby precluding analysis of the type performed elsewhere in this report. In brief, the reported programs involved $2.7 million for new construction, and $19,000 for remodeling, both sums incurred by publicly controlled schools. Funds were obtained from state and local sources. Representing 34,000 GSF of new facilities to be controlled by the respondent involved, the majority of the new construction had as its purpose the replacement of obsolete research and research training facilities. Thus, the "perceived need as of fall, 1973", reported previously, would remain virtually unchanged, except for a major reduction in the need for research and research training space. Referring back to Figure 3.VII.D, the 80,000 NASF need for research and research training space would be reduced to 69,000; while the 37,000 NASF need for additional classroom facilities would reduce to 34,000 due to the effect of the remodeling program.

It should also be noted that as a function of the reported construction, enrollment was expected to grow only slightly -- from 3,254 to 3,271 students following completion of construction.

D. THE 1983 LOOK AHEAD

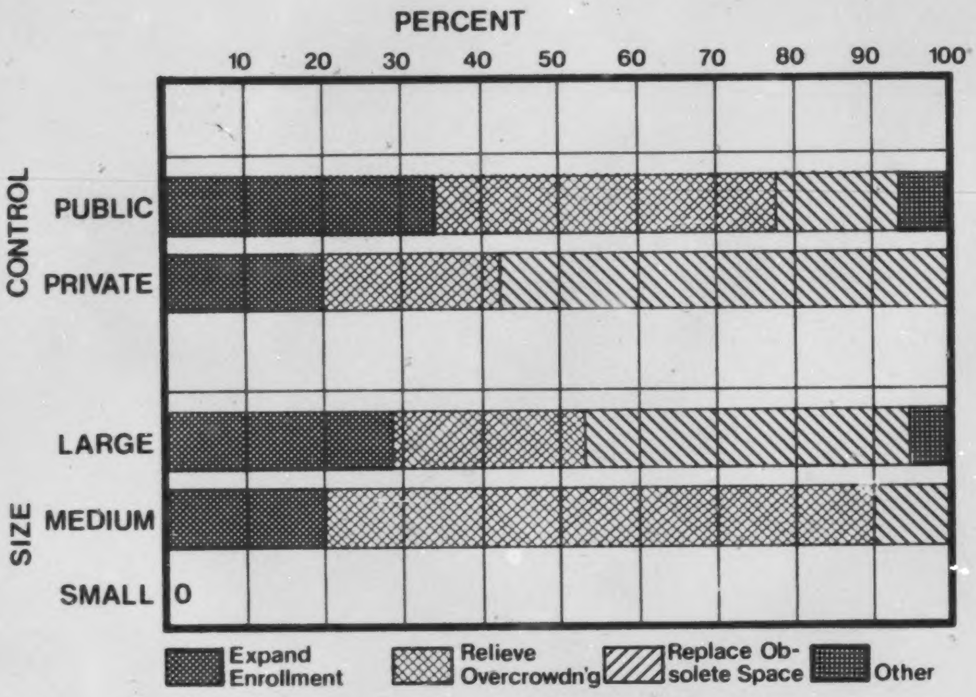
Seven major construction or remodeling programs are planned for the coming decade. Four of the 12 respondents indicated plans for the construction of 280,000 NASF of facilities by 1983, exclusive of ongoing construction. These programs range in size from 15,000 to 134,000 NASF. Just over half of this new construction would take place at three schools in the public sector; with the remaining program, the largest, taking place at a private school.

Planned remodeling was reported to a much greater extent (610,000 NASF) than new construction. Nearly all of this activity would take place at a single publicly controlled school given that "funds became available".

The reported purposes of the construction planned by respondents between the end of ongoing construction efforts and the fall, 1983, indicate that overcrowding and obsolescence represented the perceived priority needs: large schools concentrated on relieving obsolescence; while medium sized schools planned to concentrate on their perceived overcrowding problem. Schools in the public sector indicated that approximately one-third of the new construction would be for enrollment expansion, an eventuality supported by their enrollment projections for academic year 1983-84 (see Figure 3.VII.F).

FIGURE 3.VII.F

PUBLIC HEALTH SCHOOLS' PURPOSES OF PLANNED CONSTRUCTION THROUGH 1983



Between the survey date and the 1983 academic year, it is expected that the public health schools will experience a vigorous enrollment growth of 40%: from a head count of 3739 to a head count of 5235. Schools in the public sector expect to exhibit a 49% growth rate over the next decade; while the private schools predict a 24% increase over current enrollment levels. Most of the growth (on a percentage basis) will occur in the West, whose 4 schools expect to increase enrollment by 78% over that which existed as of the survey date.

Table 3.VII.14 summarizes the relationship between NASF and enrollment as they are expected to change between the survey date and academic year 1983-84. Since the survey instrument did not distinguish among room-types, the figures include "on-site patient care" and "other" facilities for both the 1973 and 1983 figures. Recalling past discussion inferring small group teaching in "large-group oriented" facilities, it is interesting to note that for 1983, NASF per student decreases in nearly every category.

TABLE 3.VII.14

CHANGES IN NASF PER STUDENT, SCHOOLS OF PUBLIC HEALTH--1973-1983

	1973			1983		
	NASF (000)	NUMBER OF STUDENTS (HEADCOUNT)	NASF PER STUDENT	NASF (000)	NUMBER OF STUDENTS (HEADCOUNT)	NASF PER STUDENT
TOTAL	999	3,739	267	1,099	5,235	210
Size of School						
Large	319	1,140	280	389	1,526	255
Medium	475	1,644	289	505	2,385	212
Small	205	955	215	205	1,324	155
Control						
Public	461	2,246	205	574	3,371	170
Private	538	1,493	360	525	1,864	282
Geographic Locale						
Innercity	505	1,845	274	492	2,412	204
Outercity	494	1,894	261	607	2,823	215
Census Region						
Northeast	381	969	393	381	1,062	359
Northcentral	48	356	135	85	372	228
South	354	1,335	265	424	1,876	226
West	216	1,079	200	209	1,925	109

VIII. SCHOOLS OF VETERINARY MEDICINE

A. INTRODUCTION

As in the case of most of the other professions surveyed, schools of veterinary medicine also typically offer a 4-year course of study, following undergraduate education, with the first two years involved primarily with basic sciences instruction, and the last two years involved with clinical instruction. Occasionally, a collapsed 3-year program is offered (two schools of veterinary medicine offered such a program as of the survey date). Veterinary medical education is similar to human medicine to the extent that human and animal physiology and biochemistry are similar; and animals, as well as humans, are treated on both inpatient and outpatient bases. As might be expected, the larger range of sizes germane to animals implies larger clinical facilities on a "patient-by-patient" basis: while this study does not concern itself with the amount of square footage devoted to patient care areas, the room type "animal facilities" may, in this context, be expected to represent a much larger proportion of a given educational facility's configuration than for schools of any other profession.

Due to the fact that, according to those knowledgeable in the field, there is no particular trend toward earlier introduction of clinical teaching experience into the veterinary medical schools' curricula, no curriculum type variable was applied to these schools. The respondent schools were, however, grouped according to size category. Based on the frequency diagram of FTE enrollment sizes, the enrollment ranges applied to the "small", "medium", and "large" size groups were 0-200 students, 201-350 students, and above 350 students, respectively. The following table summarizes the manner in which we arrived at a response rate of 85% for schools of veterinary medicine; and details the parameterization of those schools to be used in the analytic review which follows.

TABLE 3.VIII.1
DERIVATION OF RESPONSE RATE FOR SCHOOLS OF VETERINARY MEDICINE

SCHOOLS OF: VET. MED.	NUMBER OF SCHOOLS IN UNIVERSE	NON-RESPONDENT			RESPON-DENTS (NO. 1 - NO.2)	NEW SCHOOLS RESPON-DING	ESTAB-LISHED RESPON-DENTS (#3-#4)	NON-SUB-STANTIVE FORMS ESTAB. SCHOOLS	RE-SPONSES USED IN ANALYSIS (#5-#6)	ANALYZED SCHOOLS AS A % OF ESTAB-LISHED UNIVERSE (7/(1-2a-4))
		NEW SCHOOLS	ESTAB-LISHED SCHOOLS	TOTAL (#2a+#2b)						
	#1	#2a	#2b	#2c	#3	#4	#5	#6	#7	#8
TOTAL	20	0	1	1	19	2	17	0	17	94
Large	8	0	0	0	8	0	8	0	8	100
Medium	8	0	1	1	7	0	7	0	7	88
Small	4	0	0	0	4	2	2	0	2	100
Public	18	0	1	1	17	2	15	0	15	94
Private	2	0	0	0	2	0	2	0	2	100
Innercity									2	
Outercity									11	
Suburban									3	
Rural									1	
Northeast	2	0	1	1	1	0	1	0	1	50
Northcentral	8	0	0	0	8	0	8	0	8	100
South	7	0	0	0	7	2	5	0	5	100
West	3	0	0	0	3	0	3	0	3	100

The two new schools of veterinary medicine, in responding to the survey, indicated a combined NASF of 10,000. One school was already accommodating an FTE enrollment of 36. While construction plans were not yet sufficiently formulated to give an accurate indication of their nature, it was reported by one of the two schools that enrollment was expected to grow to approximately 320 students.

B. THE FALL, 1973 INVENTORY OF NONCLINICAL INSTRUCTION FACILITIES

1. Description

The 17 responding schools of veterinary medicine reported 3.4 million GSF of allocated nonclinical instruction facilities, over 98% of which were owned or leased on a very long-term basis. The 3.4 million GSF represented Net Assignable Square Footage (NASF) of 2.39 million, 506,000 of which were reported as "on-site patient care" or "other" facilities, the remainder being classroom, laboratory, library, and so on. Since "other" facilities represented such a wide diversity among room-types, and since "on-site patient care facilities" was occasionally misconstrued to mean "on-campus" rather than "in-building", these two categories have been excluded from the analysis for comparability among schools. Table 3.VIII.2 derives the net figures for the NASF used in the analysis.

TABLE 3.VIII.2
INVENTORY OF NONCLINICAL FACILITIES, SCHOOLS OF VETERINARY MEDICINE--FALL, 1973

	NUMBER OF SCHOOLS (1)	TOTAL NASF (000) (2)	NASF (000) "ON-SITE PATIENT CARE" AND "OTHER" (3)	NASF (000) USED IN ANALYSIS ((2)-(3)) (4)	AVERAGE NASF (000) PER SCHOOL ((4)/(1)) (5)
TOTAL	17	2,391	506	1,885	111
Size of School					
Large	8	1,363	199	1,164	146
Medium	8	988	296	692	87
Small	1	40	11	29	29
Control					
Public	15	2,104	490	1,614	108
Private	2	287	16	271	136
Geographic Locale					
Innercity	2	460	62	398	199
Outercity	11	1,423	363	1,060	96
Suburban	3	468	70	398	133
Rural	1	40	11	29	29
Census Region					
Northeast	1	247	5	242	242
Northcentral	8	942	226	716	89
South	5	648	125	523	105
West	3	554	150	404	135

The largest reported inventory was 242,000 NASF, and the mean configuration size was 111,000 NASF. Configuration size varied with "control" and "locale": while the "average" publicly controlled school reported 108 thousand NASF, its counterpart in the private sector reported 136 thousand NASF of "allocated" space; and the two respondents from innercity locales reported an average of 199 thousand NASF as compared to an overall average of 99 thousand in the other locales.

As shown in the following table, the nonclinical instruction facilities were heavily weighted toward research and research training space and animal facilities, with over half the reported space in these areas. There was more than three times as much class laboratory space as classroom space reported.

TABLE 3.VIII.3

NONCLINICAL INSTRUCTION SPACE DISTRIBUTION PROFILE, SCHOOLS OF VETERINARY MEDICINE--FALL, 1973

ROOM TYPE	NASF (000)	PERCENTAGE (ROUNDED)
Classrooms	105	5.6
Class Laboratories	345	18.3
Research and Research Training	653	34.6
Library	53	2.8
Auditoria	13	.7
Faculty Offices	170	9.0
Administrative Areas	97	5.1
Animal Facilities	451	23.9
TOTAL	1,885	100.0

This room-type profile remains relatively consistent when the schools are grouped by size, control, locale and census region, leading to the hypothesis that there was a somewhat "fixed" facilities configuration for schools of veterinary medicine.

The NASF figures reported by the schools are displayed on a per room and student station basis in Table 3.VIII.3. You will note that the reported NASF per student station (519 NASF) is less than the NASF per room (293 NASF). This likely indicates that a portion of the research space in schools of veterinary medicine is used exclusively for research purposes, with no student involvement.

TABLE 3.VIII.4
NASF PER ROOM AND STUDENT STATION, SCHOOLS OF VETERINARY MEDICINE--FALL, 1973

	NUMBER OF STUDENT STATIONS	NUMBER OF NASF (000)	NASF/STATION	NUMBER OF ROOMS	NASF/ROOM
Classroom	6,342	105	17	79	1,329
Class Laboratory	6,058	345	57	290	1,194
Research	985	653	519	2,226	293
Library	1,157	53	48	--	---
Auditorium	1,324	13	10	5	2,600
Faculty Office	--	170	---	1,953	87

Schools of veterinary medicine tended to use small class laboratories and large classrooms as seen in Figure 3.VIII.A. Since 11 of the 13 schools reporting room size data were in the public sector, this trend remains consistent in that sector. The private sector's 2 schools, however, while also exhibiting a propensity to use the large classrooms, also reported a preponderance of large class laboratories (see Figure 3.VIII.B) in direct contrast to the general rule.

FIGURE 3.VIII.A

DISTRIBUTION PROFILE OF CLASSROOM AND CLASS LABORATORY CAPACITIES, PUBLIC SCHOOLS OF VETERINARY MEDICINE

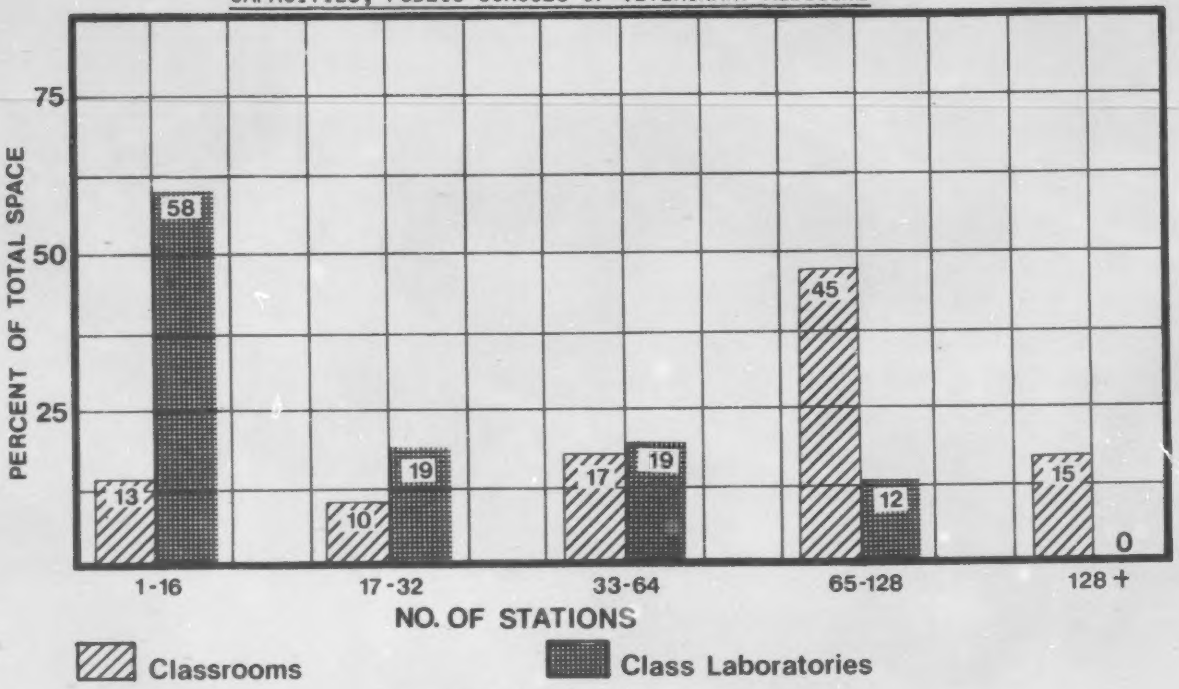
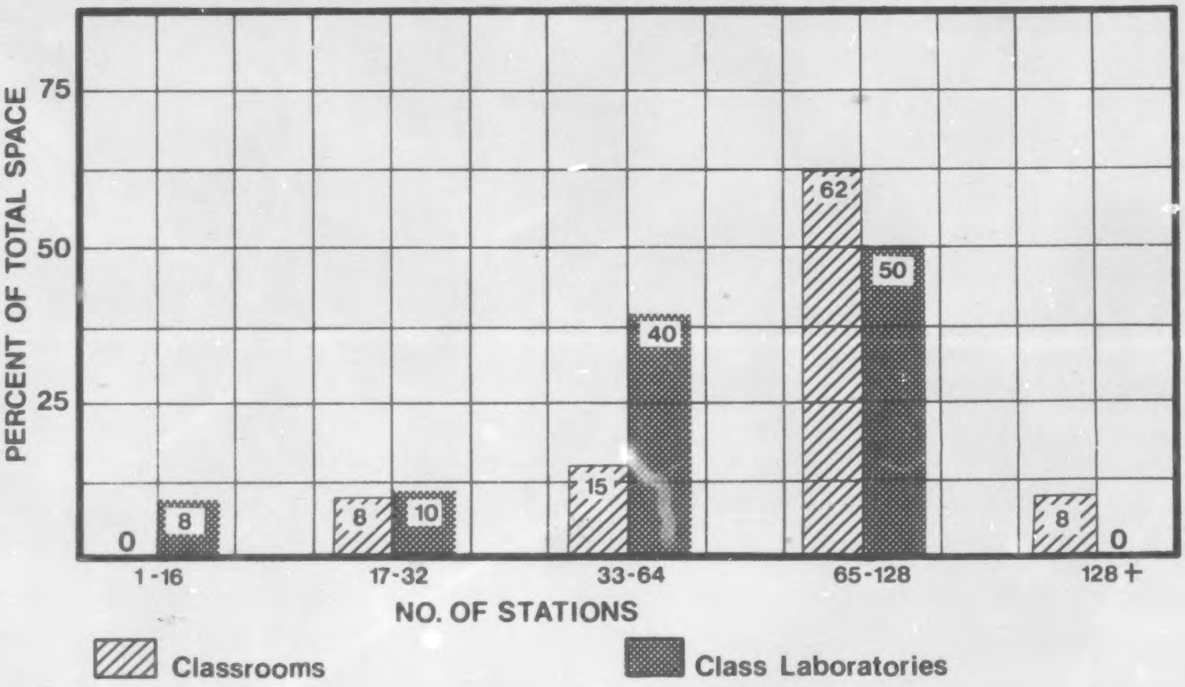


FIGURE 3.VIII.B

DISTRIBUTION PROFILE OF CLASSROOM AND CLASS LABORATORY CAPACITIES, PRIVATE SCHOOLS OF VETERINARY MEDICINE



2. The Student Population Using the Fall, 1973 Inventory

Of the 5,999 students enrolled at the 17 responding schools of veterinary medicine, most were attending on a full-time basis since the FTE count was 5,877. The vast majority (91%) of the students were reported by the publicly controlled schools. Just over 2/3 of the student population were located in outer-city and suburban locales.

TABLE 3.VIII.5

ENROLLMENT AT SCHOOLS OF VETERINARY MEDICINE--FALL, 1973

	NUMBER OF SCHOOLS	NUMBER OF UNDERGRAD-UATES (FTE)	NUMBER OF GRADUATE STUDENTS (FTE)	TOTAL FTE ENROLLMENT	AVERAGE FTE PER SCHOOL
TOTAL	17	5,268	609	5,877	346
Size of School					
Large	8	2,986	310	3,296	412
Medium	8	2,145	283	2,428	304
Small	1	137	16	153	153
Control					
Public	15	4,758	593	5,351	357
Private	2	510	16	526	263
Geographic Locale					
Innercity	2	644	56	700	350
Outercity	11	3,533	357	3,890	354
Suburban	3	954	180	1,134	378
Rural	1	137	16	153	153
Census Region					
Northeast	1	373	0	373	373
Northcentral	8	2,541	313	2,854	357
South	5	1,428	141	1,569	314
West	3	926	155	1,081	360

3. Adequacy of the Inventory

a. Condition of Space

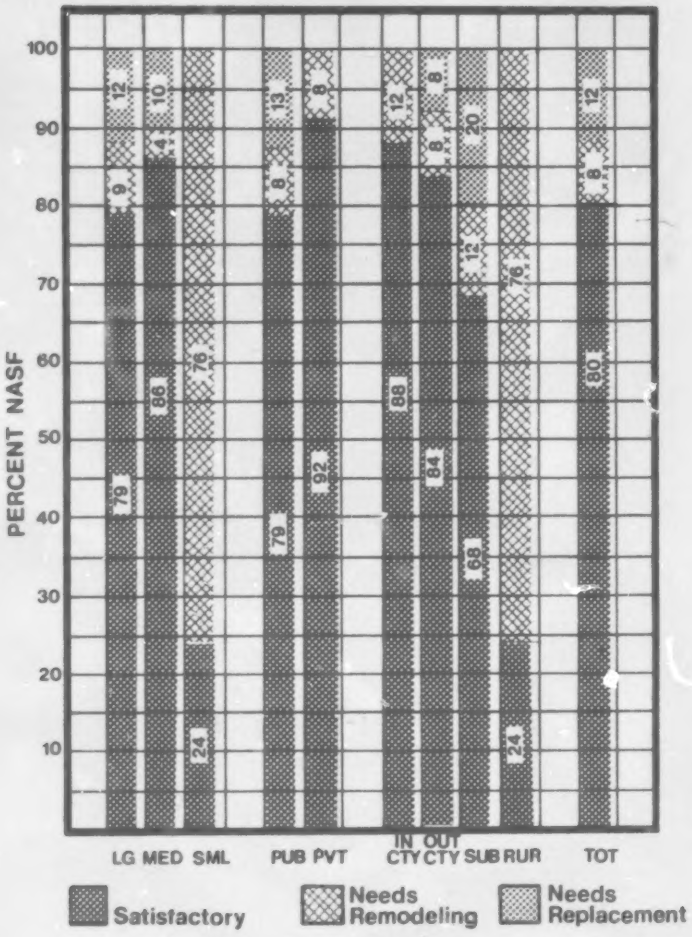
Just over 80% of the 1.86 million NASF of veterinary medicine schools' non-clinical facilities are reported to be "satisfactory for program purposes".

Of the remaining 20% (368,000 NASF) over 210,000 were perceived as needing replacement (prior to the effects of current construction programs) and 150,000 could be brought to a satisfactory state through remodeling.

When the respondent population was divided according to "Locale of School" the portion of space reported as "Unsatisfactory" was largest for suburban and rural schools (35%). Innercity and outercity schools reported only 15% of their space as being unsatisfactory. The space considered "unsatisfactory" by the suburban and rural schools is split almost evenly between "needing remodeling" and "needing replacement".

FIGURE 3.VIII.C

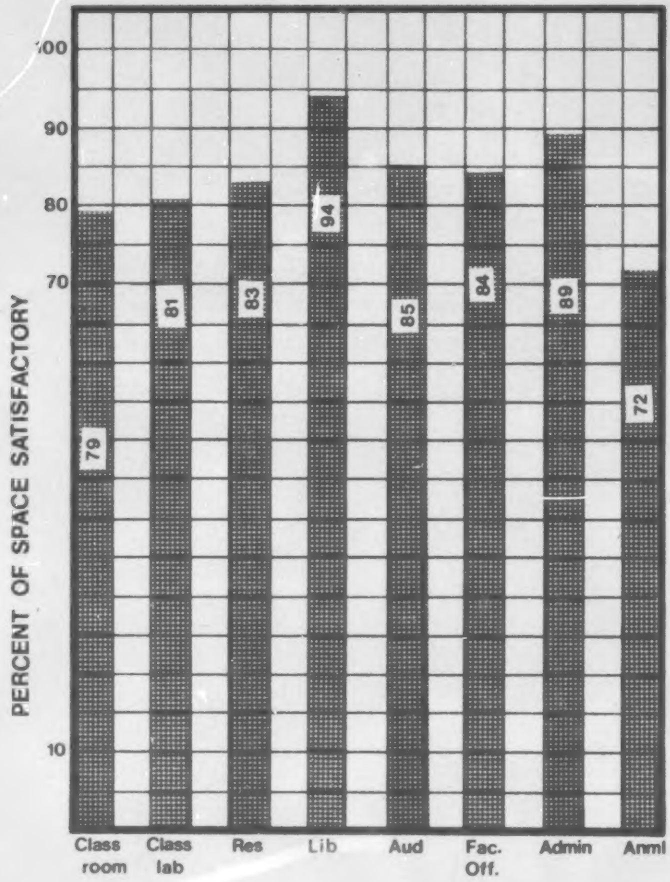
CONDITION OF SPACE IN SCHOOLS OF VETERINARY MEDICINE--FALL, 1973



Perhaps of major significance to the schools of veterinary medicine is the room type "profile" of satisfactory space. As is seen in Figure 3.VIII.D, animal facilities were classified as only 72% satisfactory.

FIGURE 3.VIII.D

VETERINARY MEDICINE SCHOOLS' PROFILE OF SATISFACTORY SPACE--FALL, 1973

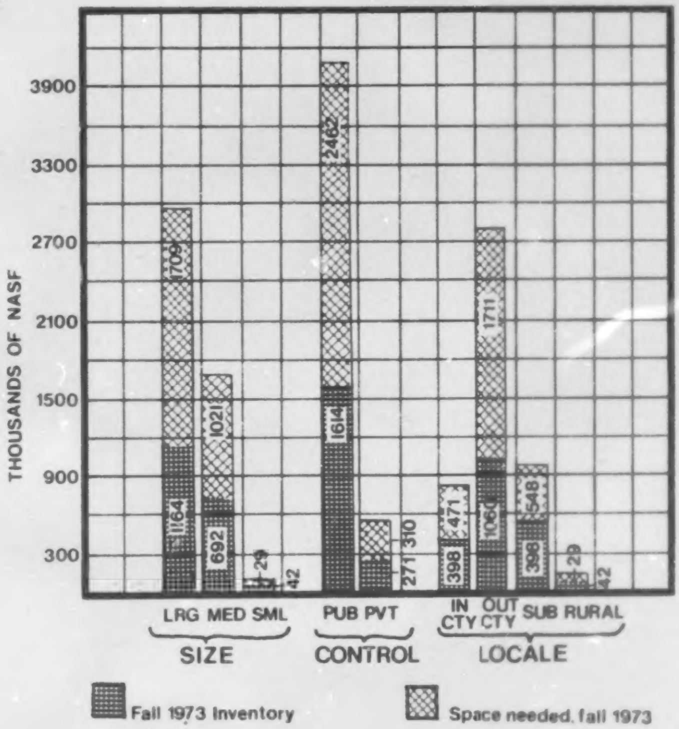


b. Need for Facilities as of Fall, 1973

In all, schools of veterinary medicine perceived a need for 890,000 new NASF. This need is nearly 47% when expressed as a portion of the aggregate fall, 1973 inventory. Need was not at all a function of school enrollment size but did differ greatly between public (53%) and private (14%). Outercity schools similarly seemed to feel a large space restriction (61%) compared to schools of the other locales (particularly innercity, whose perceived 18% need is consistent with the relatively large amount of space reported by those schools). Schools in the north central census region, comprising 47% of the respondent population (on a number of schools basis), felt a need for a 77% space addition compared to 52% for the three western schools and less than 20% for the remaining 6 schools. The numbers of NASF involved in the above relative needs are displayed in Figure 3.VIII.E.

FIGURE 3.VIII.E

PERCEIVED SPACE NEEDS FOR SCHOOLS OF VETERINARY MEDICINE--FALL, 1973



Half of the space needed was to relieve overcrowding. This percentage was relatively stable over all the major room types.

When these needs are analyzed on a per-student basis, the changes in certain room-types become quite significant. Thus, for example, it is desired that animal and classroom facilities be increased by 2/3; and that class laboratory space per student be increased by 53%. Although small proportions of the overall space configuration, library and auditoria were reported to have the greatest need in proportion to existing space (100% and 200%, respectively).

Sixteen of the 17 responding schools of veterinary medicine reported various "minimum" needs (as constrained by the survey instrument) for satisfactory accommodation of their Fall, 1973 enrollment. Most often mentioned were the needs for additional faculty (13 schools), support staff (15 schools), and operating funds (13 schools) as shown in Table 3.VIII.6.

TABLE 3.VIII.6

VETERINARY MEDICINE SCHOOLS' MINIMUM NON-FACILITIES NEEDS FOR ACCOMMODATING FALL, 1973 ENROLLMENT

	FACULTY	SUPPORT STAFF	OPERATING FUNDS ($000)
Total	271	424	4,908
Number of Schools Reporting a Need	13	15	13
Mean Need Reported	21	28	378
Size of School			
Large	192	283	2,598
Medium	79	135	1,810
Small	0	6	500
Control			
Public	259	403	3,608
Private	12	21	1,300
Geographic Locale			
Innercity	25	35	800
Outercity	190	315	3,123
Suburban	56	68	485
Rural	0	6	500

c. Library Facilities

Only one of the 17 schools of veterinary medicine reported that any enrollment increase could be accommodated with the library facilities available as of Fall, 1973. In fact, 65% (11) of the respondents reported overcrowding to at least some degree, 4 schools to a high degree. Notably, library square footage per student station was reported to be among the lowest for all eight professions surveyed.

4. Resource Usage

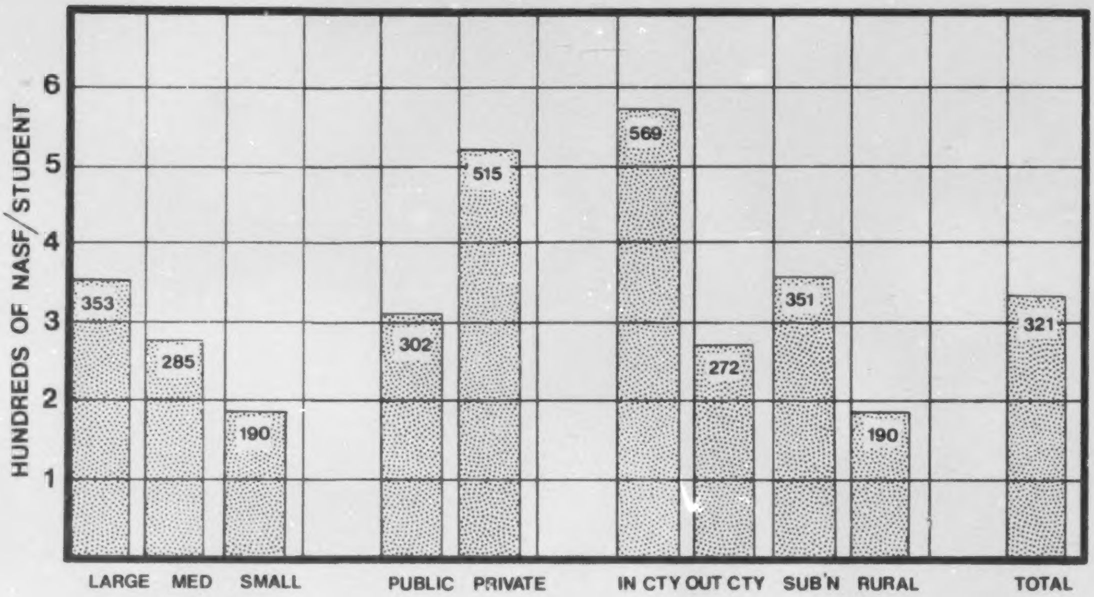
a. Space and Stations Available per Student

Respondents indicated an average NASF per student figure of 321, ranging as high as 649. Space per student tends to decrease as "size" of school decreases, with the schools in the "large" category reporting an average of 353 NASF per student, and the "small" schools reporting an average of 190 NASF per student.

In the aggregate, schools in the private sector reported nearly 70% more square footage per student (515) than schools in the public sector (302). The pattern, in other professions, of "cramped quarters" at the innercity schools is not followed by the schools of veterinary medicine as these schools averaged far more space per student than did the schools in the other locales (see Figure 3.VIII.F).

FIGURE 3.VIII.F

COMPARISON AND CONTRAST OF NASF PER STUDENT, SCHOOLS OF VETERINARY MEDICINE--FALL, 1973



The relationships noted above hold relatively consistent as we view individual room types. One exception to this statement is library space in the three suburban schools. Whereas, overall, these schools are second to innercity schools in terms of NASF per student, they reported the lowest average library space per student.

Classroom stations per student averaged 1.41, with a high of 2.46 and a low of .52. Four schools reported having no classrooms under their day-to-day control. Large schools had approximately 50% more stations per student than did the medium and smaller schools. Class lab stations were not as numerous per student as were the classroom stations, averaging only 1.09 (with a range of .22 to 1.70).

The schools of veterinary medicine, in general, had access to about half as many joint-use classrooms and student stations as were allocated to them. Schools of medium size and/or suburban locale tend to be on the high side of this figure (see Table 3.VIII.7).

TABLE 3.VIII.7

JOINT-USE FACILITIES AVAILABLE TO SCHOOLS OF VETERINARY MEDICINE--FALL, 1973

	CLASSROOMS				CLASS LABORATORIES			
	NUMBER OF "ALLOCATED" STUDENT STATIONS (1)	STATIONS PER STUDENT (2)	JOINT-USE STATIONS (3)	COL (3) AS A % OF COL (1) (4)	NUMBER OF "ALLOCATED" STUDENT STATIONS (5)	STATIONS PER STUDENT (6)	JOINT-USE STATIONS (7)	COL (7) AS A % OF COL (5) (8)
TOTAL	6,342	1.41	3,597	57	6,048	1.09	648	11
Size of School								
Large	4,619	1.61	1,656	36	3,295	1.00	208	6
Medium	1,557	1.05	1,941	124	2,584	1.23	440	17
Small	166	1.08	0	0	169	1.10	0	0
Control								
Public	5,626	1.42	3,322	59	5,432	1.08	648	12
Private	716	1.36	275	38	616	1.17	0	0
Geographic Locale								
Innercity	953	1.36	275	29	885	1.26	0	0
Outercity	3,990	1.36	2,219	56	4,033	1.13	538	13
Suburban	1,233	1.75	1,103	89	961	.85	110	11
Rural	166	1.08	0	0	169	1.10	0	0

Joint-use class laboratory space was apparently not nearly as accessible as classroom space to the schools of veterinary medicine, probably due to the more specialized nature of class laboratory facilities. The joint-use class laboratories provided only an 11% addition to those laboratories controlled by (allocated to) respondents.

b. Usage of Classrooms

Fifty-three percent of respondents' classroom space is primarily devoted to instruction in the basic biological sciences, with 40% of the space devoted to instruction in the clinical sciences, and the remaining 6% of mixed usage. In general, these same distributions held when the schools were grouped by size, locale, and control. The major exception to these figures pertains to private and innercity schools which reported major amounts (40% to 75%) of space not dedicated to either purpose.

Before proceeding, it is important to recall the discussion of PART 1 in which it was indicated that our computational method for assessing utilization percentages was more suitable to comparative analysis than to absolute measurement. The percentage figures of this and the subsequent section are depressed to the extent that 2,080 hours is greater than the true number of hours in an academic year as reported by respondents. In essence, our formula for resource utilization is:

$$\frac{\text{resource-hours utilized}}{\text{resource-hours available}} \times 100,$$

regardless of whether that resource is a room or a student station. In the denominator, resource hours "available" is basically given by:

resource count (e.g., number of rooms) X 2,080.

While the use of 2,080 makes all schools comparable, the resulting percentage figure should only be used for group-to-group comparisons rather than as a measure of utilization in the absolute, except as related to the fact that by removing certain operational, policy, and other constraints, a school might indeed hold classes on a 52 week per year, 40 hour per week basis.

Overall, the average classroom was used 619 hours out of the academic year. On a base of 2,080 hours, and applying the "joint-usage correction factor" (as described in detail in Appendix G), classroom utilization among the 13 schools of veterinary medicine for whom data were complete averaged 35%. This figure remains fairly stable over the school groupings which include more than one or two schools (large, medium, public, outercity, Northcentral, and South).

TABLE 3.VIII.8

CLASSROOM UTILIZATION, SCHOOLS OF VETERINARY MEDICINE--FALL, 1973

	NUMBER OF SCHOOLS	MEAN HOURS OF USAGE PER YEAR	NUMBER OF ROOMS	CLASSROOM UTILIZATION PERCENTAGE
TOTAL	13	619	79	35
Size of School				
Large	7	594	51	36
Medium	5	734	24	37
Small	1	289	4	14
Control				
Public	11	676	67	39
Private	2	310	12	15
Geographic Locale				
Innercity	2	409	13	20
Outercity	8	711	44	35
Suburban	2	634	18	53
Rural	1	289	4	14

Classroom student station utilization figures were neither as high nor as variable as the corresponding room utilization percentages. The average base), and the pattern of utilization percentages tended to follow that for room usage when the schools were grouped according to the analysis parameters used herein. Table 3.VIII.9 displays the "raw material" entering into the computation of student station utilization rates, and column 5 of that table shows, as its heading, the manner in which this raw material is organized to produce the percentage.

TABLE 3.VIII.9
CLASSROOM STUDENT STATION UTILIZATION, SCHOOLS OF VETERINARY MEDICINE--FALL, 1973

	"CONTROLLED" STATION HOURS* AVAILABLE (1)	STATION HOURS* USED BY VET. MED. STUDENTS (2)	"CONTROLLED" STATION HOURS* "BORROWED" BY OTHER SCHOOLS (3)	"JOINT-USE" STATION HOURS* BORROWED BY VET. MED. STUDENTS (4)	UTILIZATION PERCENT $\frac{(2)+(3)}{(1)+(4)}$ X 100 (5)
TOTAL	12.78	1.98	.67	.61	20
Size of School					
Large	9.19	1.14	.65	.16	19
Medium	3.24	.79	.02	.45	22
Small	.35	.05	0	0	14
Control					
Public	11.29	1.75	.67	.60	20
Private	1.49	.23	0	.01	15
Geographic Locale					
Innercity	1.98	.34	0	.01	17
Outercity	7.88	1.15	.10	.46	15
Suburban	2.57	.44	.57	.14	38
Rural	.35	.05	0	0	14

* In millions.

c. Usage of Class Laboratories

The distribution of class laboratory usage among "basic biological science", "clinical science", and "mixed usage" was highly similar to that for classrooms, both on average (54%, 37%, 9%, respectively) and for the various subgroupings of schools. The average class laboratory was used 711 hours per year, a value which disguises the fact that, as seen in Table 3.VIII.10, special purpose class laboratories are used much more heavily, on average, than are general purpose class laboratories.

TABLE 3.VIII.10

CLASS LABORATORY USAGE, SCHOOLS OF VETERINARY MEDICINE--FALL, 1973

	MEAN HOURS' USAGE PER YEAR		ROOM UTILIZATION %	STUDENT STATION UTILIZATION %
	GENERAL PURPOSE	SPECIAL PURPOSE		
TOTAL	332	851	34	18
Size of School				
Large	256	891	36	20
Medium	430	622	25	16
Small	656	528	34	15
Control				
Public	325	863	34	18
Private	459	349	29	19
Geographic Locale				
Innercity	426	353	22	17
Outercity	306	909	35	16
Suburban	331	617	31	28
Rural	656	528	34	15

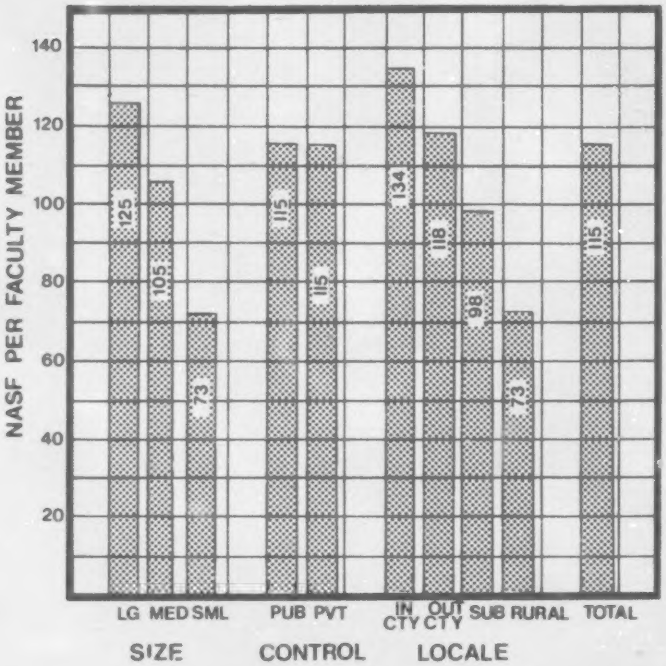
Class laboratory room utilization (34%) was essentially equal to that for classrooms, as an overall average measure, as were the percentages for student station utilization as shown in the above table (compare with Table 3.VIII.8). Separate utilization figures for general versus special purpose class laboratories could not be computed due to limitations in the data imposed by the design of the survey instrument.

d. Faculty Offices

All of the 17 respondents reported their full-time and part-time faculty, with a total of 1,481 FTE faculty reported in all. Comparison of the NASF of faculty office space with the full-time equivalent teaching faculty yields 115 NASF per faculty member. While schools in the public sector reported almost exactly the same NASF per faculty member as did schools in the private sector, strong relationships were exhibited between "size" of school, locale of school, and NASF per faculty member (see Figure 3.VIII.G).

FIGURE 3.VIII.G

FACULTY OFFICE SPACE AVAILABLE TO FACULTY--FALL, 1973



e. Animal Facilities

The 17 schools of veterinary medicine responding to the relevant questions indicated that nearly 35% of their animal facilities (exclusive of those for animal patient care) were used for instructional purposes and the remainder (65%) were almost exclusively used for research. The largest departure from these figures was exhibited by the private schools which indicated that 50% were for instructional purposes.

f. Joint-Utilization of Classrooms and Class Laboratories

Overall, schools of veterinary medicine made available about 33% of their classrooms, but less than 1% of their class laboratories to students of other disciplines. However, with 50% of the joint-use classrooms reported by one school, it is reasonable to conclude that very few classrooms or class laboratories are typically made available to other schools by schools of veterinary medicine. This low "sharing" of space with other schools is consistent with the small amount of such space reported to have been available from other sources; and reflects the specialized nature of the instruction received by veterinary medical students.

C. ONGOING CONSTRUCTION AND REMODELING, AND THE POST CONSTRUCTION INVENTORY

1. Extent, Purposes, and Cost

Eleven of the 17 schools of veterinary medicine responding to the survey indicated that, as of the survey date, they were involved in a construction or remodeling program. The reported programs ranged in size up to $14 million for new construction, and up to $5 million for a single remodeling program. The vast majority of the 700,000 GSF of new facilities ($42 million of construction cost) was reported by the public sector (99% of the total). As may be seen in Table 3.VIII.11, the two private schools were incurring 42% of the cost of the ongoing remodeling.

TABLE 3.VIII.11

OVERVIEW OF ONGOING CONSTRUCTION AND REMODELING AT SCHOOLS OF VETERINARY MEDICINE--FALL, 1973

	NUMBER OF SCHOOLS WITH CONSTRUCTION OR REMODELING	NEW CONSTRUCTION PROGRAMS			REMODELING PROGRAMS		
		NUMBER	GSF (000)	COST ($000)	NUMBER	NASF (000)	COST ($000)
TOTAL	11	7	681	42,333	6	47	1,655
Size of School							
Large	6	3	418	25,153	3	22	817
Medium	4	3	249	16,830	2	21	588
Small	1	1	14	350	1	4	250
Control							
Public	9	6	667	41,983	4	32	964
Private	2	1	14	350	2	15	691
Geographic Locale							
Innercity	1	0	0	0	1	11	441
Outercity	8	5	591	39,230	4	32	964
Suburban	1	1	76	2,753	0	0	0
Rural	1	1	14	350	1	4	250
Census Region							
Northeast	1	0	0	0	1	11	441
Northcentral	5	4	588	39,155	1	10	338
West	2	1	76	2,753	1	12	104

FIGURE 3.VIII.H

VETERINARY MEDICAL SCHOOLS' PURPOSES OF ONGOING CONSTRUCTION AND REMODELING

FALL, 1973

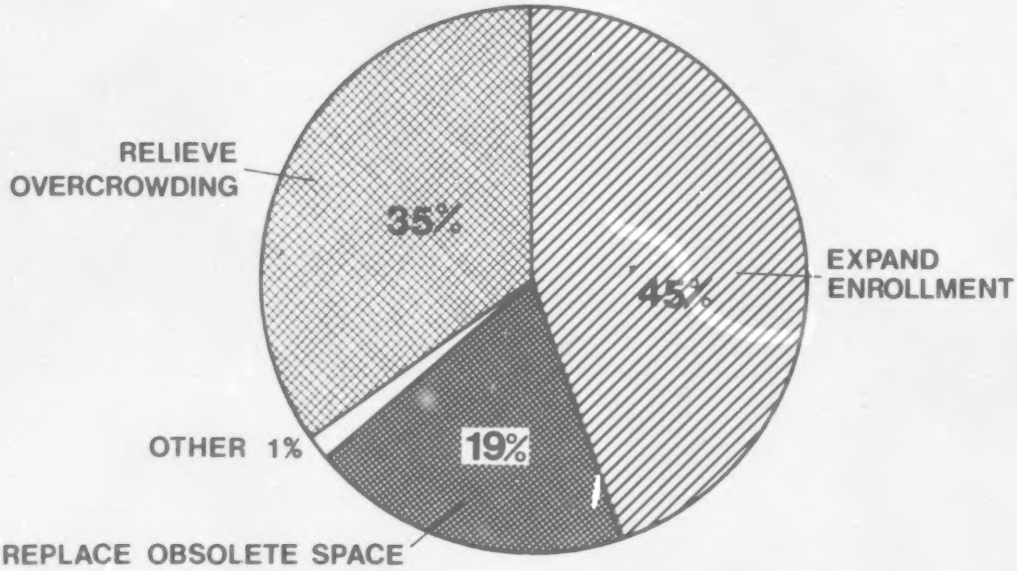
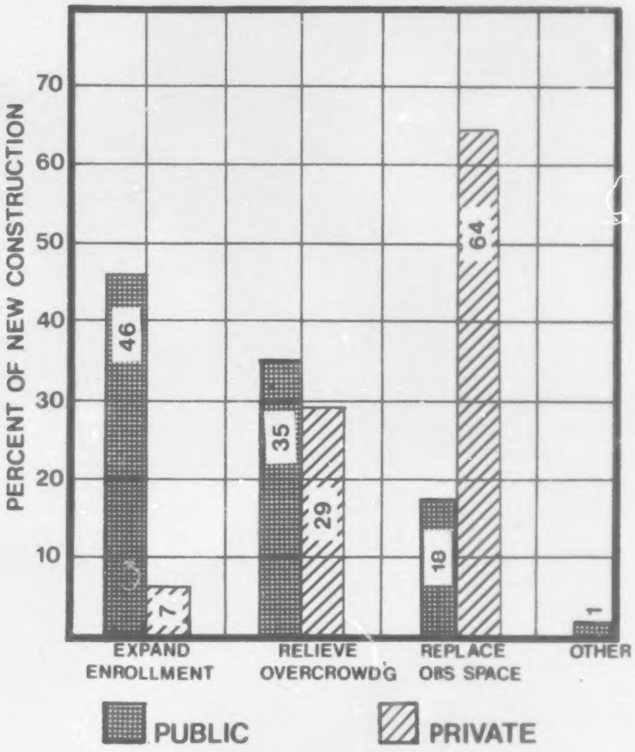


Figure 3.VIII.H Illustrates the purposes of the new construction for all responding schools of veterinary medicine as a group. Dividing the schools by sector, it is found that the construction efforts of the public sector were primarily for enrollment expansion purposes, while replacement of obsolete space was the key purpose for the privately controlled schools (see Figure 3.VIII.I).

FIGURE 3.VIII.I

PURPOSES OF ONGOING CONSTRUCTION IN PUBLIC AND PRIVATE SCHOOLS OF VETERINARY MEDICINE--FALL, 1973



2. Sources of Funds for Ongoing Construction and Remodeling Programs

State and local funds and HPEA construction grants provided all but three percent of the total funds for the ongoing construction and remodeling programs, with the state and local funding representing three times that of HPEA (72% versus 25%).

3. The Effects of Ongoing Construction and Remodeling

In terms of NASF, the net effect of ongoing construction and remodeling would be to increase the veterinary medical schools' inventory by 275,000 NASF, bringing their "allocated" nonclinical instruction facilities to 2.16 million. As may be seen in Table 3.VIII.12, the bulk of this growth is to occur in the Northcentral part of the country, primarily at large, publicly controlled schools.

TABLE 3.VIII.12
POST-CONSTRUCTION INVENTORY OF NONCLINICAL INSTRUCTION FACILITIES, SCHOOLS OF VETERINARY MEDICINE

	1973 INVENTORY (000 NASF)	POST-CONSTRUCTION INVENTORY (000 NASF)	CHANGE IN INVENTORY (000 NASF)	% CHANGE
TOTAL	1,885	2,160	275	14.6
Size of School				
Large	1,164	1,346	182	15.6
Medium	692	784	92	13.3
Small	29	30	1	3.4
Control				
Public	1,614	1,888	274	17.0
Private	271	272	1	.4
Geographic Locale				
Innercity	398	398	0	0
Outercity	1,060	1,286	226	21.3
Suburban	398	446	48	12.1
Rural	29	30	1	3.4
Census Region				
Northeast	242	242	0	0
Northcentral	716	928	212	29.6
South	523	526	3	.6
West	404	464	60	14.9

Over and above the effects of the construction and remodeling programs, 14 of the 17 respondents indicated a need for 930,000 NASF of nonclinical instruction facilities to accommodate the enrollment expected at the time of those programs' completion.

At a minimum, we estimate that 158,000 NASF of this need is for replacement of obsolete facilities. (Exclusive of the effects of the construction programs, nine schools indicated a need for 216,000 NASF for replacement purposes as of fall, 1973. 18.8 percent of the ongoing construction was reported to be for replacement purposes. Since the NASF to result from the new construction was 310,000, 18.8% of the latter would be 58,000 NASF estimated to be constructed for facilities replacement. 216,000 minus 58,000 yields the estimated minimum replacement need of 158,000 NASF.) Table 3.VIII.13 displays the results of similar computations for the various groupings of schools used in this analysis.

TABLE 3.VIII.13
EFFECTS OF ONGOING CONSTRUCTION UPON FACILITIES REPLACEMENT NEEDS--SCHOOLS OF VETERINARY MEDICINE

	NASF* NEEDING REPLACEMENT AS OF FALL, 1973	ESTIMATED NASF* BEING REPLACED	PERCENT OF REPLACEMENT NEED ALLEVIATED	MINIMUM REPLACEMENT NEED, POST-CONSTRUCTION
TOTAL	216	58	27	158
Size of School				
Large	142	44	31	98
Medium	74	12	16	62
Small	0	3	--	--
Control				
Public	216	55	25	161
Private	0	3	--	--
Geographic Locale				
Innercity	47	0	0	47
Outercity	90	45	50	45
Suburban	79	9	12	70
Rural	0	3	--	--

* All figures are in thousands.

Table 3.VIII.14 shows the distribution of the 930,000 NASF needed on a room-type basis. As may be seen, overcrowding represents a significant proportion of the need in almost every case.

TABLE 3.VIII.14

NASF NEEDED BY ROOM-TYPE FOLLOWING COMPLETION OF ONGOING CONSTRUCTION AND REMODELING--SCHOOLS OF VETERINARY MEDICINE

	NASF (000) AT SCHOOLS REQUIRING ADDITIONAL SPACE*	NASF NEEDED (000)	NASF NEEDED AS % OF INVENTORY	NASF NEEDED TO RELIEVE OVER-CROWDING (000)	OVER-CROWDING NEED AS A % OF TOTAL NEED
TOTAL	1,741	930	53	396	43
Classroom	115	68	59	37	54
Class Laboratory	299	206	69	71	34
Research & Research Training	372	189	51	65	34
Library	27	46	170	28	61
Auditorium	1	19	1,900	2	11
Faculty Office	132	72	55	40	56
Administrative Areas	57	26	46	6	23
Animal Facilities	397	307	77	147	48

* Column's elements do not sum to 1,741 since not all respondents reported the distribution of the post-construction inventory among room-types.

4. The Post Construction Student Population

As mentioned above, and given the inherent assumptions underlying our definition of "post-construction period", we find that the difference between the FTE enrollment as of the survey date and the FTE enrollment "following the completion of ongoing construction and remodeling" is 12 percent, with the respondents' projected aggregate FTE enrollment increasing from 5.9 to 6.7 thousand students. The two schools of the private sector anticipate a 33% growth in enrollment, from 526 to 700 students, while the single "small" school in our survey population envisions a growth factor of 44% upon completion of its ongoing construction efforts (from 153 to 220 FTE students). Table 3.VIII.15 summarizes the inter-relationships between facilities and enrollment growth by presenting the changes in NASF per student expected to occur between the fall of 1973 and the "post-construction period" on a room-type basis.

TABLE 3.VIII.15

CHANGES IN NASF PER STUDENT, FALL, 1973 TO POST-CONSTRUCTION PERIOD- SCHOOLS OF VETERINARY MEDICINE

	NASF PER STUDENT 1973	NASF PER STUDENT, "POST-CONSTRUCTION"	DIFFERENCE	% CHANGE
TOTAL	321.2	328.1	6.9	2
Classroom	17.8	20.1	2.3	13
Class Laboratory	58.6	70.0	11.4	19
Research & Research Training	110.9	105.1	-5.8	-5
Library	9.0	9.9	.9	10
Auditorium	2.2	1.8	-.4	-18
Faculty Offices	28.9	30.2	1.3	4
Administrative Areas	16.5	17.3	.8	5
Animal Facilities	76.6	73.7	-2.9	-4

D. THE 1983 LOOK AHEAD

As of the fall of 1973, the schools of veterinary medicine were planning 1.8 million NASF of new construction to be completed prior to 1983, and an expansion in enrollment (headcount) to 8,512. The NASF figures obtained for the "1933 look-ahead" do not exclude either "on-site patient care" or "other" facilities, so in order to show the combined effects of enrollment and facilities changes on a comparable basis, Table 3.VIII.16 reinstates "on-site patient care" and "other" facilities into the total NASF. The table also uses headcount in determining the NASF per student ratio.

TABLE 3.VIII.16

CHANGES IN NASF PER STUDENT, SCHOOLS OF VETERINARY MEDICINE--1973-1983

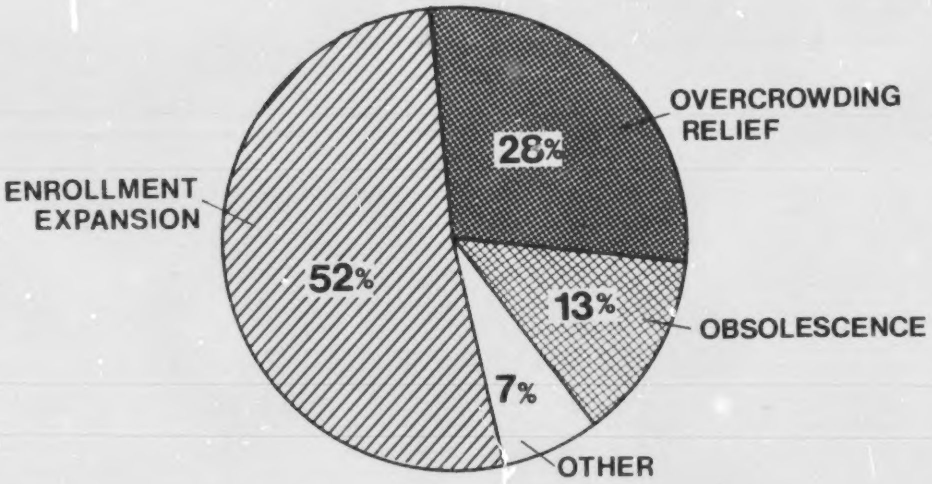
	FALL, 1973		POST-CONSTRUCTION		FALL, 1983	
	NASF (000)	NASF PER STUDENT	NASF (000)	NASF PER STUDENT	NASF (000)	NASF PER STUDENT
TOTAL	2,391	399	2,717	403	4,3577	512
Size of School						
Large	1,363	404	1,554	413	2,492	526
Medium	988	400	1,119	405	1,805	521
Small	40	261	44	200	60	194
Control						
Public	2,104	384	2,426	401	4,050	524
Private	287	546	291	416	307	389
Geographic Locale						
Innercity	460	657	460	570	757	805
Outercity	1,423	355	1,693	371	2,474	445
Suburban	468	413	520	449	1,066	624
Rural	40	261	44	200	60	194
Census Region						
Northeast	247	662	247	515	247	515
Northcentral	942	321	1,194	343	1,761	415
South	648	403	658	388	1,165	509
West	554	512	618	564	1,184	788

While the overall trend is toward an increasing NASF per student figure, specific groups, in particular the two schools of the private sector, show a reduction in NASF per student. Due to the small sizes of some of these groups, the reversal is not considered significant except to the extent that it adds to the overcrowding pressure reported for the fall of 1973.

Figure 3.VIII.J details the perceived purposes of the projected future construction.

FIGURE 3.VIII.J

VETERINARY MEDICAL SCHOOLS' PURPOSES OF CONSTRUCTION PLANNED THROUGH 1983



E. THE FALL, 1973 INVENTORY OF CLINICAL FACILITIES AND NONCLINICAL FACILITIES IN CLINICAL AREAS

1. Clinical Facilities

The 17 respondent schools of veterinary medicine reported a total of 21 animal hospitals or clinics used as major teaching components in their respective academic programs. 3,406 animal holding units were used on an inpatient basis: nearly half of them were integrally related with nonclinical instruction facilities controlled by respondents. It is interesting to note the clear pattern which emerges in assessing holding units per student (see Table 3.VIII.17). While the overall average of .58 is reasonably fixed regardless of size or control of school, the average for the various locales appears to be related to distance from innercity areas. While the sample sizes (particularly in innercity and rural) do not lend themselves to statistical significance, the pattern is quite pronounced.

Outpatient facilities for clinical teaching included 388 animal patient stations in 165 examining and treatment rooms. As seen in Table 3.VIII.17, these stations serviced 155,000 animal patient visits per year (1972 figures).

TABLE 3.VIII.17

CLINICAL TEACHING RESOURCES, SCHOOLS OF VETERINARY MEDICINE--FALL, 1973

	NUMBER OF CLINICS	ANIMAL HOLDING UNITS	HOLDING UNITS PER STUDENT	OUT-PATIENT STATIONS	ANIMAL PATIENT VISITS PER YEAR	VISITS PER STUDENT
TOTAL	21	3,406	.58	388	155,447	26
Size of School						
Large	9	1,804	.55	158	102,603	31
Medium	11	1,509	.62	220	52,144	21
Small	1	93	.61	10	700	5
Control						
Public	18	3,104	.58	368	150,199	28
Private	3	302	.57	20	5,248	10
Geographic Locale						
Innercity	2	325	.87	23	10,492	15
Outercity	12	2,088	.73	146	107,758	28
Suburban	5	815	.52	209	36,005	32
Rural	2	178	.16	10	700	5

2. Nonclinical Facilities in Clinical Areas

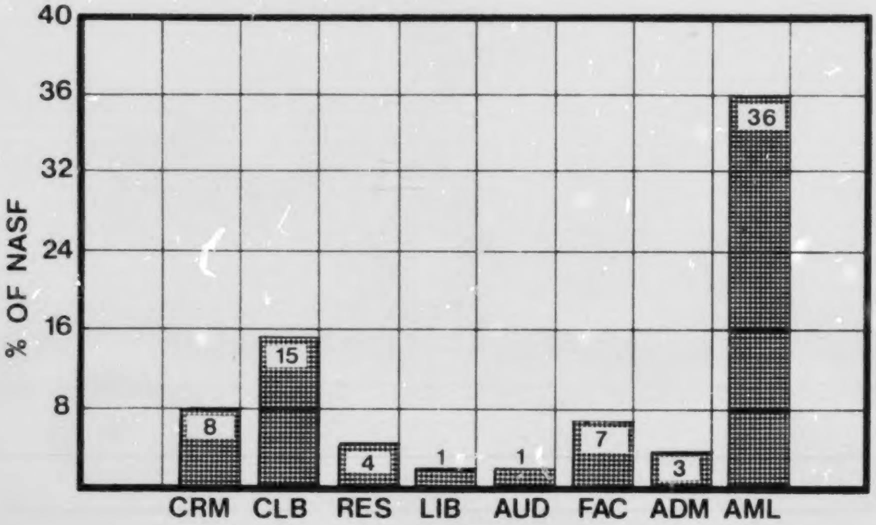
a. Description

The 288,000 NASF of nonclinical instruction facilities found in 12 owned and affiliated animal hospitals represented a 15% adjunct to the nonclinical instruction facilities "allocated" to the respondent schools of veterinary medicine.

The "distribution profile" of nonclinical facilities in clinical areas indicates that non-patient animal facilities represented the largest element relative to other room-types, accounting for 36% of the NASF reported. Class laboratories were the next largest element, representing 15% of the distribution profile (see Figure 3.VIII.K).

FIGURE 3.VIII.K

DISTRIBUTION PROFILE OF NONCLINICAL INSTRUCTION FACILITIES IN CLINICAL AREAS



b. Adequacy of Nonclinical Instruction Facilities in Clinical Areas, Fall, 1973

(1) Condition

Respondents reported that approximately 84% (240,000 NASF) of the fall, 1973 inventory of nonclinical instruction facilities in clinical settings were "satisfactory for program purposes". Of the remaining 48,000 NASF, only 27,000 could be made satisfactory through remodeling; while the remainder required replacement (see Table 3.VIII.18).

TABLE 3.VIII.18

CONDITION OF NONCLINICAL FACILITIES IN CLINICAL AREAS, SCHOOLS OF VETERINARY MEDICINE--FALL, 1973

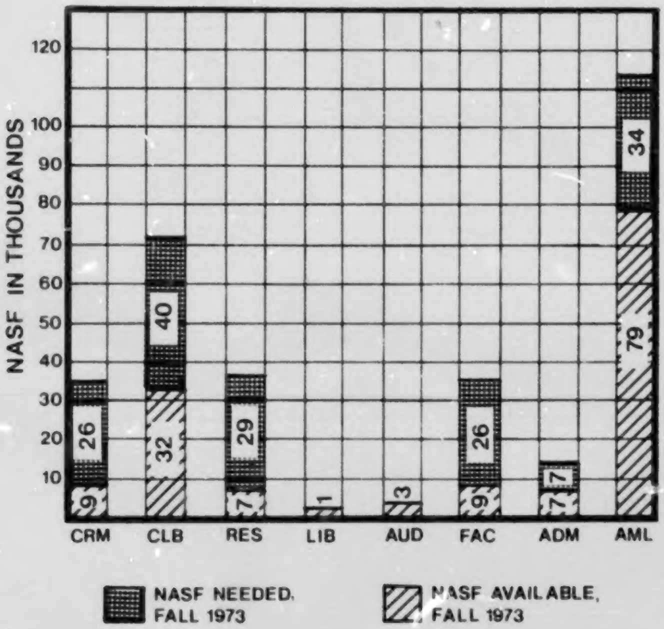
	TOTAL NASF (000)	NASF SATISFACTORY (000)	NASF NEEDING REMODELING (000)	NASF NEEDING REPLACEMENT (000)
TOTAL	288	243	27	18
Size of School				
Large	136	91	27	18
Medium	152	152	0	0
Small	0	--		
Control				
Public	256	211	27	18
Private	32	32	0	0
Geographic Locale				
Innercity	0	--		
Outercity	230	185	27	18
Suburban	26	26	0	0
Rural	32	32	0	0

(2) Instructional Facilities Needed in Clinical Settings

Nine hospitals perceived a need for additional facilities, these hospitals representing 51% of the inventory of nonclinical instruction facilities in clinical areas. About 163,000 NASF were seen to be needed, with 79% (122,000 NASF) of this figure for overcrowding relief. While the NASF needed represents 57% of the total NASF available as of fall, 1973, it represents 112% of the NASF available at the nine facilities expressing a need. On a room-type basis, those respondents having a need wished to more than quintuple the available square footage of research and research training space, quadruple the available classroom and faculty office facilities and double the existing laboratory and administrative space. Animal facilities, the largest portion of the distribution profile, was seen to need only a 43% increase. Since there was no reported construction or remodeling of clinical facilities (or nonclinical facilities in clinical areas) as of the survey date, the latter needs are equivalent to those for the "post-construction period" discussed in previous sections.

FIGURE 3.VIII.L

COMPARISON OF SPACE AVAILABLE WITH SPACE NEEDED, VETERINARY MEDICAL SCHOOLS' NONCLINICAL INSTRUCTION FACILITIES IN CLINICAL AREAS



F. THE 1983 LOOK AHEAD FOR CLINICAL FACILITIES

Three large schools indicated a planned construction program for the coming decade. Of the 231,000 NASF to be constructed (including animal patient care areas), the percentage to be applied to expanding enrollment was projected to be more than half the total amount (52%). Most of this construction (88%) would be performed by the schools of the public sector and would be situated almost entirely in innercity and outercity locales.

TABLE 3.VIII.19

CURRENT NEEDS, AND PLANNED CONSTRUCTION OF NONCLINICAL FACILITIES IN CLINICAL AREAS, SCHOOLS OF VETERINARY MEDICINE

	NASF NEEDED (000)	CONSTRUCTION THROUGH 1983 (000 NASF)	PROJECTED INVENTORY, FALL, 1983
TOTAL	163	231	416
Size of School			
Large	56	231	264
Medium	107	0	152
Small	0	0	0
Control			
Public	157	155	327
Private	6	76	89
Geographic Locale			
Innercity	4	76	57
Outercity	151	155	301
Suburban	6	0	26
Rural	2	0	32
Census Region			
Northeast	6	76	89
Northcentral	122	102	246
South	35	53	72
West	0	0	9

As may be seen, the large need at the medium-sized schools will not be fulfilled by 1983--an additive need representing over two-thirds the magnitude of the inventory available as of the survey date.

APPENDIX A
DETAILED DESCRIPTION OF SURVEY METHODOLOGY

A. DESIGN OF THE SURVEY INSTRUMENT

1. Problems to be Overcome

a. The Mail Survey Technique as a Vehicle for the Required Research

Mail survey techniques should ordinarily be used for research which involves short, factual answers requiring the response of only a subset (sample) of the target population. Complex questions which ostensibly require two-way, give-and-take interaction between respondent and the researcher should be treated through the mails. Of primary importance to both the response rate and the validity of the data is the amount of effort required for completion of the survey instrument; typically, the shorter the survey form, the better in both cases.

Each of the above principles was of immediate concern in the survey at hand. It was known at the onset that the instrument would be long, and would require a significant number of "guesstimates" and opinions. Moreover, it was desired that as high a return rate as possible be obtained--not so much for the purposes of statistical projection as for the purpose of establishing an inventory of HPE facilities, needs, and usage factors. Finally, the complexity of the desired information was such that direct questions would not suffice, (e.g., "what is your classroom occupancy rate?")

b. The Problem of Double Counting of Facilities

As the costs of facilities construction have increased, there has been an increasing tendency on the part of schools of varying professions to share in their usage of (i.e., jointly utilize) physical facilities and other resources. In light of this fact, we could not obtain a space inventory by simply requesting that each respondent report "space available for use" and aggregating the results over all responses: we would have double and, perhaps, triple counted all jointly-used facilities.

c. Changing Facilities Picture

The time period both before and during which the survey would be conducted was felt to be one of considerable flux in the configuration of facilities available for health professions education. Delineation of an "inventory" of facilities would somehow have to account for ongoing construction and remodeling activities so that their transient effects would not cloud our desired "point-in-time" assessment of facilities needs and availabilities.

d. Non-standard Terminology Among the Health Professions

One implicit requirement of the ability to assess HPE facilities on a national basis, at a given point in time, was that the data collected from all professions be compatible. Compatibility implied the need for a standard terminology which, at the inception of the survey, did not exist. In fact, within a given profession, the individual schools were found to utilize differing terminologies. Further complicating this issue was the fact that a number of the survey's more complex informational needs would require development of some entirely new terminology if we were to express them to respondents in a comprehensible manner.

e. Respondents' Cost of Data Collection

Given the survey's informational goals, there was no doubt that it would impose a serious burden upon respondents. Of greatest concern was the potential need for top level administrators to complete portions of the instrument. Since health professions schools were already beset by a variety of questionnaires from a number of concerned agencies, it was not expected that the survey universe would react positively to "yet another" survey form. The paradoxical situation thus arose of attempting to obtain a comprehensive and complicated data structure with a minimum of effort by relatively low cost clerical staff. It ultimately proved infeasible to do so, though not for technical reasons.

f. Potential Survey Bias

It was also anticipated that the survey results might be biased in the related areas of (1) the schools' perceived needs for facilities in addition to those already available to their use; and (2) quantitative measures of facilities utilization. It was thus recognized that it would be necessary to develop a systematic, justifiable, and objective approach to utilization assessment for the purposes of obtaining unbiased estimates. Such estimates could then be used as a benchmark with which perceived facilities needs might be compared.

2. Approach

a. Philosophy

The philosophy underlying the survey instrument's design had a number of complementary facets. First, it was desired to reduce, to a minimum, the effort required of respondents, while leaving the repetitive or complicated arithmetic tasks to a computer. Second, it was deemed valuable to formulate the data inquiries in as disaggregate a form as possible, thereby affording the research team maximum flexibility for manipulating the data and synthesizing information therefrom. Third, the numerous pitfalls associated with interpreting such a complex data set demanded that to the greatest extent possible, respondents should be prevented from "apportionment" of space (e.g., dividing a single room's area into teaching space and research space). If apportionment of space were to be performed at all, it would be performed in a systematic and consistent way for all respondents: and it would use data whose meaning and derivation were clear to the researchers.

Fourth and finally, a long-term survey effort of the U.S. Office of Education (the Higher Education General Information Survey -- HEGIS) was known to have resulted in aggregate facilities data at each of the Nation's college campuses. In the Higher Education Facilities Classification and Inventory Procedures Manual (Publication OE 51016) it had been strongly suggested that each campus maintain its facilities inventory on a room-by-room basis. If such had, in fact, been done, the facilities data source most conveniently available to respondents would represent a content and level of disaggregation imminently suitable to our survey's needs. Under the expectation that room-by-room facilities data were available to each campus either in manual or computer-addressable form, the survey instrument design proceeded under the assumption that room-by-room data would be the foundation from which each response would be built.

b. Design Phase I: The Room-by-Room Approach

Although a draft survey instrument had been prepared by the Agency's Project Officer prior to the initiation of the design effort, a facilities survey of the 250 college campuses of the State of New York had used a room-by-room approach and had been markedly successful. It was thus mutually agreed that the study team (composed of the Contractor and the Agency's Project Officer) should develop, independent of the Project Officer's initial draft, a room-by-room survey design.

Just subsequent to the start of this effort, a panel of 13 consultants was appointed by the Bureau and retained by RRC. These individuals (see Appendix B) represented a concentration of top level professional and administrative expertise in all eight health professions, in library systems, audio-visual instruction and teaching hospital facilities. The function of this group was to act in an advisory and "sounding board" capacity for the research team. At the end of a two month initial design phase for the room-by-room survey instrument, a meeting was held in Bethesda, Maryland, on November 2, 1971 during which the approach was presented by the study team to the consultants (and others) and discussed at some length.

Briefly, the concept of this approach was that each respondent would fill out a set of work sheets (one line of data for each room in the school's current facilities inventory) and would mail these sheets to RRC, along with "class lists" and a "master schedule". These data would be computer processed to yield information regarding (1) the types, amounts, and condition of square footage used by each school; and (2) highly accurate classroom and class laboratory station utilization figures. In addition to these data, a two or three page questionnaire would be submitted to a top administrative official of each school. This questionnaire would cover all of those topics which were not amenable to resolution using the room-by-room/master schedule/class lists approach. Cost and time estimates of the required level of commitment on the part of each respondent indicated that the burden would represent the equivalent of $1200-$1500.

The consultants' reaction to this proposed approach was less than positive due to the major investment of clerical time it would require. It was not obvious that for purposes of accuracy and ease of reporting, the first step in responding to any survey of the nature in question would be to develop a room-by-room listing from which any aggregation of room-types could then quickly be built.

It was also discovered that the concept of a fixed "master schedule" is not necessarily germane to the operation of all of the Nation's health professions schools. Faculty often serve dual roles as both teachers and practicing members of the health care delivery community. As a result, it is often necessary to hold classes on an irregular basis. In view of the above two factors, design emphasis reverted to that of the Project Officer's originally prepared questionnaire draft which embodied a self-contained set of data which is herein called an "aggregate" approach.

c. Design Phase II: the "Aggregate" Approach

The so-called "aggregate" approach was, to some degree, a logical extension of the room-by-room approach. Conceptually, it simply left to respondents the added responsibility for performing the repetitive arithmetic required to report square footage aggregates by room type and other parameters. Although the resulting questionnaire would be quite long and complex, its closed-end and self-contained nature would, it was anticipated, be much more acceptable to the survey universe.

The solutions to the kinds of problems outlined previously have direct bearing on the format and content of the data collection instruments devised for the pretest. For example, it was ultimately determined that two data collection instruments would be required to avoid the problem of double counting: one form would deal with space controlled by a health profession school; while the other would relate to space used but not controlled by a health profession school. The white form, the "Health Professions School Questionnaire" (see Appendix C), was used to capture data regarding all space "allocated to" (controlled by) health professions schools. The blue, "Parent Institution Questionnaire", was used to collect data concerning those facilities made available to health professions schools on a non-allocated basis. Theoretically, the sum of the two quantities of space ("allocated" plus "not allocated") would yield total space being used either wholly or partially for the purposes of health professions education.

The problem of the shifting facilities configurations available for use by health professions schools was solved by requesting respondents to report three fundamental pieces of information:

(1) the form and composition of the inventory as of fall, 1973;
(2) a description of ongoing and fully authorized construction and remodeling programs; and
(3) the inventory of facilities expected to be available at such time that the ongoing construction and remodeling programs were completed.

Survey terminology was standardized through the development of an extensive set of room-type definitions and terms used in the instructions.

Such terms as "allocated", "joint-use", and "respondents' students", which may seem familiar enough to the reader, were defined specifically for the purposes of the survey. In addition, it was found through study of the HEGIS facilities manual that the assignment of facilities to individual schools of a given campus was not done at a level of detail sufficient for our purposes, while the manner in which HEGIS defined its room-types was not completely in keeping with our particular survey's information needs. As a result, although the HEGIS room-type classification structure was used as the foundation of this survey, we found it necessary to redefine somewhat the HEGIS room-type codes to include the additional component of "room function". For example, the HEGIS room-type (110) "instructional space" was allowed to include HEGIS room-type (350) "conference room", if, in fact, that conference room were used as a classroom for a significant portion of the academic year.

To allow an objective assessment of utilization figures, both the pretest and full-scale survey instruments were organized such that the computation of utilization percentages required the research team's synthesis of descriptive data reported on four scattered pages. No attempt was made to have the questionnaire act as a self-validating mechanism in the assessment of respondents' reported needs for additional space: it was expected that the data analysis phase of the survey would indicate (through comparison of utilization with "needs" data) whether or not the latter were significantly out of line.

d. Design Phase III

A second meeting was held by the study team (February, 1972) with the panel of 13 consultants. In this two-day session, during which the results of design phase II were exhibited and discussed, a number of interesting points were brought up which had marked effect upon the content of the data gathering instrument. Of primary importance was the fact that the majority of the consultants were of the opinion that clinical facilities had not been treated in enough detail in light of the survey's stated goals. It was indicated that clinical instruction facilities are at least as important as non-clinical instructional facilities, particularly in the case of medical schools.

Just prior to the pretest, the survey design group thus incorporated a series of questions regarding the availability and use of clinical instruction facilities and other resources. This revision brought up a problem all its own: since a survey of the nature and scope of HEGIS had not been performed for teaching hospitals and other clinical teaching facilities, it was very possible that the data required would not be conveniently available. It was left to the pretest to give definitive indications of whether hospital data could feasibly be requested.

In May of 1972, the proposed pretest instrument was sent to the panel of consultants, to all of the health professions school associations, and to a variety of Federal agencies and other interested parties for comment (see Appendix D for listing). Suggestions were incorporated into the instrument, and final preparations were then made for the pretest mailing.

B. THE PRETEST AND ITS RESULTS

1. Execution

The pretest of the survey instrument was conducted during the summer of 1972 with the cooperation of nine health professions schools and three parent institutions, the names of which are presented in Appendix H. The sample represented not only a wide geographical dispersion, but included five different health professions and a wide variety of sizes and degrees of complexity of facilities configuration.

In anticipation of the time frame of the full-scale survey, the pretest institutions were given four and six weeks, respectively, for completion of the Parent Institution Questionnaire and Health Professions School Questionnaire. While four weeks was shown to be an adequate period for the former, the six week deadline was difficult to meet due to the summer timing of the pretest with its usual implications of vacations and skeletal staff.

While awaiting the schools' completion of the questionnaire, a series of discussion questions was developed for use in the pretest's site visitation phase. The ensuing discussions became the foundation of our efforts to interpret and solve the problems encountered by the pretest institutions. (Appendix E contains a copy of the internal document used by RRC in the conduct of the discussions with the pretest institutions. Detailed page and item numbers refer to the pretest questionnaires.)

2. Pretest Findings

After several meetings with pretest respondents, it became evident that fewer major difficulties were encountered by the schools than had been anticipated, although the usual minor definitional and wording problems were identified and addressed. In general, the survey intent, scope, and data collection vehicle received a favorable response from the participants.

a. High Level Administrators Required

The most serious potential problem uncovered was that the length and complexity of the questionnaire necessitated much of its completion by a relatively high-ranking administrator. The unfortunate aspect of the "aggregate approach" was that it often required both high-level knowledge and detailed arithmetic operations by the same individual. Knowing that the aggregate approach would be that used in the full-scale survey, it was decided (as may be seen in Appendix C) that the survey's cover letter would strongly allude to the level of individual required for the instrument's successful completion.

b. Clinical Facilities Data Difficult to Obtain

Although, as anticipated, each respondent was able to gain access to a room-by-room facilities description of his nonclinical instruction facilities, existing square-footage data were very sparse for clinical facilities. In some instances it was difficult for respondents to determine the number of students utilizing a given hospital for educational purposes, much less the hospital's size.

A second difficulty in obtaining clinical facilities data involved the sensitivity of the relationship between the administration of a given school and that of its affiliates. Due to the often complicated amalgamation of hospital and school administrative personnel, the transfer of data from hospital to school required that the request for data be made from the "right" person to the "right" person: and the satisfaction of this dual condition did not guarantee that the requested data were available or, if available, could be obtained due to the effort required.

c. A Continuum of Configurations

It was found that the five professions included in the pretest could adequately be described with a single survey instrument, although some aspects of the particular facilities configurations studied were difficult to fit into a common mold. In particular, the pretest forms forced respondents to separate clinical from nonclinical teaching space For cases in which both types of facility were housed in a single building, respondent was required to apportion the building's Gross Square Footage onto two pages of the survey form--a "clinical" and a "nonclinical" page. To obviate such apportionment, and to give respondents the medium for expressing their own particular situation (and ourselves the capability for assessing it), it was decided that if a hospital and a nonclinical instructional area were located in separate buildings or even in different wings of the same building, the separation of these facilities onto two separate pages ("freestanding" hospital versus "allocated" instructional space) would offer ease of reporting and would clearly indicate that they were not completely interchangeable from the utilization point of view. If, on the other hand, the clinical and nonclinical teaching facilities were intermingled in one or more physical structures, the entirety could be reported on a single page. Thus, an ambulatory care facility located in a basic sciences building would be considered an "on-site patient care" facility and reported on the same page as the schools' other instructional space.

d. Ten Year Look-Ahead Too Detailed

Discussions with pretest respondents indicated that the projected facilities information originally requested in the "ten-year look-ahead" was much too detailed. Existing master plans for facilities construction were often not sufficiently developed to provide detail concerning the apportionment of space among classrooms, laboratories, and the like. On the other hand, the existence of a complete planning document was, paradoxically, a problem in its own right since such documents are typically of great length and would have to be completely understood by the individual filling out the questionnaire in order that his response parallel the planning document's content.

In sum, respondents found the survey well conceived and intelligently contrived, although quite time-consuming to complete properly. The consensus seemed to be that responding to the questionnaire could yield a variety of useful information; and having overcome the initial shock at the survey's magnitude, there remained a high motivation to respond and obtain feedback from the survey's analytic phase.

3. Final Preparations for Full-Scale Mailout

Pretest findings were presented to BHM officials during October of 1972. Without significantly affecting the questionnaire's effectiveness with respect to the survey's informational goals, the problems uncovered by the pretest were solved through redesign of the instrument. During this redesign period, a 25% reduction in the requested amount of data was effected; and the form obtained Office of Management and Budget final approval in January of 1973.

C. THE FULL-SCALE MAILOUT

1. The Mailing List

The appropriate portion of the full-scale survey package (see Appendix C) was sent to 462 health professions schools and associated "parent institutions". The mailing list was developed from three sources: the Bureau's computerized records of grant applications; the U.S. Office of Education's 1973 Higher Education Directory and a list of school administrators who were responsible for signing their institutions' NIH construction grant requests.

Although the data from these three sources were basically compatible, it was difficult to determine the appropriate parties to whom the Parent Institution Questionnaire (PIQ) should have been sent. The survey's concept of "parent institution" was that of the "central or coordinating agency which makes facilities available...on a "non-allocated" basis...to at least one health professions school". The latter concept is meant to imply only a facilities usage relationship between a health profession school and that agency for which our PIQ was intended. It was the latter kind of relationship which was inherent in our data sources; and although an attempt was made to match geographically the (conventionally defined) parent institutions' mailing addresses with those of their associated health professions schools, a number of survey packages were sent to state university central administrations and similar agencies which should not have been included in the mailout. Discussion with those who felt that the survey was inapplicable to their particular situation led to clarification of the extant facilities relationships among the institution's health professions schools. As a result, a number of additional forms--and inter-agency transfers--eventually placed 154 parent institution questionnaires in the proper hands.

2. The Survey Universe

It was the intent of this survey to include all of the nation's existing and developing schools of Dentistry, Medicine, Optometry, Osteopathy, Pharmacy, Podiatry, Public Health, and Veterinary Medicine in the public and private non-profit sectors. In addition to the 154 parent institution agencies, the Health Professions School Questionnaire was sent to the following numbers of schools of each profession:

Dentistry	59
Medicine	114
Optometry	12
Osteopathy	8
Pharmacy	72
Podiatry	5
Public Health	18
Veterinary Medicine	20
TOTAL	308

Of the above figures, 31 were new or developing with either no students, a partial complement of students, or some combination of students and facilities clearly indicative of developmental status.

The 12 respondents participating in the pretest were accorded individual handling in the full-scale mailout. From the beginning of the pretest, it was hoped that pretest participants would not have to respond again. Unfortunately, the changes to the instrument engendered by the pretest presented certain data incompatibilities between the pretest and final questionnaires; and it was felt that the interests of pretest respondents and the survey would be best served if these incompatibilities were resolved. Our approach was to reorganize and transfer, where possible, the pretest participants' data to a sample copy of the final questionnaire, and include it with the standard package. In most cases, the additional work required of the pretest participants was minimal in comparison with either their past efforts or the efforts of other respondents to the full-scale mailout.

3. Follow-up Procedures and Results

About a week prior to the mailout, an announcement letter was sent to each institution so that responsibility for completing the instrument would already have been placed by the time the package arrived. It was hoped that the announcement letter would expedite RRC's receipt of the postcard (see Appendix C), thereby giving an early indication of the speed with which each institution was attempting to respond. The full-scale survey mailout was initiated on May 11, 1973, with a July 16, 1973 deadline.

By approximately three weeks after the mailout, 221 postcards had been received. On June 1, letters which contained a second return postcard, similar to the first, were sent to the 241 potential respondents who had not yet returned the first postcard: these follow-up letters had the desired effect in that by June 18, a total of 405 non-duplicate postcards had been received.

In the cover letter, and in the survey questionnaire's instructions, a point was made of assuring the potential respondents that telephone calls were welcome if it were felt that expert RRC support could be useful in the forms' timely and proper completion. As a result, problems of (1) interpretation of instructions and (2) describing particular facilities configurations were expedited through incoming calls which numbered approximately 600.

On July 2, the first telephone follow-up campaign was initiated. The purpose of this procedure was to make contact with the 45 institutions from whom no postcard, telephone, or survey response had yet been received.

During this campaign (and in responding to calls initiated by other respondents), it became evident that the July 16 deadline for completion of the Health Professions School Questionnaires would be difficult for many to meet. A number of verbal extensions on the return date were thus given which, although based on the specific circumstances of each school, were typically about August 15.

In mid-July, a second telephone follow-up was performed involving 80 schools from whom we had had "postcard contact" only. Since we were able to direct our calls to a specific individual and telephone number (as indicated on the return postcards), we were able to obtain commitments from nearly all contacts as to an expected completion date (again, typically between mid-August and the start of September).

Judging from the response to each telephone campaign, it very soon became clear that the individual contacts made in the telephone follow-ups were well worth the often considerable effort demanded. With few exceptions, the institutions contacted had not yet addressed the questionnaire with the effort required for satisfactory response, but did express willingness to do so. The general impression gathered was that failure to make each particular contact may have resulted in continuation of that contact's previous low level of participation. As a result, a third telephone follow-up was begun during the start of September. In this case, 35 schools were involved: those with whom no contact had been made--in either direction--since the initial telephone follow-up.

The fourth and final telephone follow-up for purposes of increasing the response rate was made in mid-October. By this time, a number of schools had indicated their inability or unwillingness to participate in the survey. This campaign excluded such schools, concentrating specifically on those from whom commitments had been obtained or inferred. While the verbal response to this effort was decidedly positive, only 57 additional forms were subsequently received as a result of calls involving 85 schools or parent institutions. Completed questionnaires which arrived as late as December 28, 1973 were included in the analysis phase of the survey effort.

4. The Non-Respondents' Survey

When it became obvious that no amount of follow-up with a particular school would have the desired effect, and that the potential number of non-respondents was significantly large, a plan was put into effect for obtaining some insight into the nature of that portion of the survey universe which would not be accounted for by our survey results.

An internal document was produced which assured that although different questions might be asked of each non-respondent, their data would be a comparable subset of the total questionnaire and thus amenable to analysis. In essence, this document was the basis of an unstructured, informal telephone interview with each non-respondent health profession school that would cooperate.

While a variety of topics was covered, only those data were retained which the basic internal document requested.

Of the 39 non-respondents contacted ("Parent Institutions" were not involved in this campaign) data were obtained from 30. As may be seen from the copy of the internal document (included as Appendix F), the approach taken was to obtain some degree of closure as to the overall size of the survey universe's facilities and student population so that future researchers would be able to place our results in perspective on a national scale. While certainly, many more questions could have been asked, it must be kept in mind that non-respondents had already been contacted many times; and it was felt that a too detailed non-response follow-up would meet with little success. Thus, the kinds of questions asked were general in nature, and, given a discussion with the appropriate individual, could be obtained over the telephone on the "first pass" without much effort on the part of those contacted.

D. FORMS PROCESSING

1. Purpose of This Section

A question which consistently arises in analyzing the results of a mail survey is that of the accuracy of the data. The reader can typically distinguish between measurements and opinions or estimates (e.g., amount of space needed, planned construction for the coming decade); however, for those data which could have been obtained through measurement, it is important that (1) observed shortcomings, if any, be pointed up; or, at the least, (2) the procedures used for editing the data be explained so that the reader may have a firmer grasp of the accuracy of the survey's results.

It is the intent of this section to convey sufficient detail concerning the questionnaires' editing that this assessment may be made. The survey vehicle was very complex in its design, and although the step-by-step instructions provided would, if followed with extreme care, result in a properly completed form, there may have been a tendency to consult the instructions only when absolutely necessary. The existence of this tendency became apparent in many instances of the telephone contact initiated by respondents as they attempted to clarify the manner in which their data should be reported. The manual editing thus followed a highly structured path derived from known problems in the field and problems which it was considered possible might arise.

2. The Manual Edit: Problems Uncovered

The purpose of the manual edit was twofold: first, it offered an opportunity to assess the apparent overall validity of the response it encompassed through checks of internal consistency; and second, it afforded an early opportunity for rectifying obvious errors of a typographical or conceptual nature.

Responses were edited on a campus-by-campus rather than on a school-by-school basis. Although the tie between a set of Health Professions School Questionnaires and the associated Parent Institution Questionnaire was not extremely precise, it was possible to combine the page(s) 3 of the HPSQ with page 2 of the PIQ to determine whether some coordination of all responses had been performed. For example, it may be seen in Appendix C that page 3 requests each respondent to report the number of rooms not allocated to his school but used for the instruction of his students. If he reported more rooms than the sum of (1) those reported on the PIQ and (2) those reported by other schools on that campus as "allocated but shared with others", then here we had an obvious inconsistency.

Once the inter-organizational problems had been outlined or resolved, we could turn our attentions to the responses for an individual school. As each form was processed, those corrections which were obvious were entered by the editors. Those for which data were missing or too complex to correct were held in anticipation of the later telephone campaign in which respondents were called for both clarification of major discrepancies or misunderstandings, and best estimates as to missing data items. Those items which were the most troublesome are listed in the discussion to follow.

a. Freestanding Versus On-Site Patient-Care Facilities

One complicated problem uncovered during our telephone campaign and later editing of questionnaires was that of differentiation of "on-site patient care facilities" from the "freestanding hospitals and clinics". Notwithstanding the definitions supplied, "on-site" was often taken to mean "on-campus", while "freestanding" seemed to imply overtones of organizational structure and function rather than that which was desired--a description of a building's structural separateness from other buildings. As a result, the manual edit procedure attempted to discover and correct questionnaires whose reported facilities had been mixed (e.g., "on-site patient care" facilities were reported on page 5A instead of pages 2A/2B, or structurally "freestanding" hospitals had been reported as being in the same buildings as the instructional facilities of page 2A/2B). In most cases, these difficulties were relatively easy to find since the respondents making such errors would report the facility on both pages 5A and 2A/2B. Later telephone conversations allowed the editors to determine on which page the facility actually belonged, and the questionnaire was corrected accordingly.

b. Growth Potential

A great many respondents did not answer an important series of questions (see page 9 of HPSQ in Appendix C) regarding the resource needs concomitant to a 10% or 20% increase in enrollment. There appear to be 3 major reasons for this omission. In the first place, a design oversight made it very difficult for those without an ongoing construction program to determine that this series of questions applied to them. In the second place, a number of schools were reluctant to answer any questions having to do with facilities needs, future construction plans, or resource needs. A third group who did not respond to this question explained that practical considerations kept them from expanding regardless of the availability of resources.

c. Ongoing Construction: the Post-Construction Inventory

A natural question regarding ongoing construction and remodeling is that of its effects upon the configuration of facilities available for health professions education. It is not sufficient to simply determine the amount of construction being performed, since much of it will result in the abandonment of structures currently being used. Neither is it proper to assume that facilities reported to be in unsatisfactory condition are going to be replaced due to a given ongoing construction program, since the latter could be for the purpose of expanding enrollment or relieving overcrowding rather than for the replacement of obsolete space. As previously described, the approach taken was that of requesting the facilities configuration at such time that the ongoing construction program was completed.

Respondents were occasionally unable to go into detail concerning the effect (on the existing facilities configuration) of the ongoing construction program. Either the facilities planning office (or equivalent) had not yet completed its analysis of the post-construction need for space (and it had, therefore, not yet decided how or whether to use the existing facilities); or the internal make-up of the newly-constructed building(s) had not yet been specified in the kind of detail necessary to respond to the questionnaire. More often than not, it was possible to obtain such data by simply granting an extension of time for the questionnaire's completion. There still remain, however, cases for which the exact configuration of the post-construction inventory is not available.

d. Clinical Facilities Data

As noted in the pretest, and as expected, respondents found it extremely difficult to obtain detailed square footage data regarding major affiliated hospitals. Often, completed responses listed only the names, ownership and student loading on those hospitals, with similar sparse data being submitted for the so-called "minor affiliates". In the case of minor affiliates, the manual editors concentrated only upon that question relating to the affiliates' potential as major teaching units. Although respondents knew why a given minor affiliate was not a major affiliate, they were, by definition, only remotely acquainted with the specific facilities configuration of each.

e. Utilization Data

A great deal of attention was paid to the editing of those data which would be used for computation of classroom and class laboratory station utilization and room utilization. In fact, a special telephone follow-up campaign was conducted in an effort to assure the data's validity.

The major difficulty with this final telephone contact was that of avoiding bias of the survey results. Just as the error-correction callbacks resulting from the manual (and computerized) editing were being made, it became known that two of the 15 construction grant application evaluation criteria were to be obtained from copies of data submitted on the survey instrument. For this and other reasons, it might be expected that a utilization-directed callback campaign could result in a subconscious effort, on the part of respondents, to improve their reported utilization figures.

For the purposes of the campaign, the schools were divided into four groups of decreasing priority for study:

(1) schools which had submitted a construction grant application;
(2) schools whose utilization-related data were internally inconsistent;
(3) schools whose utilization-related data were internally consistent but for which utilization computation resulted in figures either below 30 or above 100%; and
(4) all other schools (about 25% of the Respondents).

Schools in the lowest priority group were not called. All other schools were called as many times as necessary in order to elicit the desired data, within reasonable bounds.

Always aware of the need to keep good relationships with the schools, the study team ended the callbacks to unresponsive schools only six weeks prior to the first draft submission of this report.

f. Miscellaneous Difficulties

A large number of respondents had considerable difficulty in obtaining Net Square Footage (Net Assignable Square Footage plus hallways, mechanical areas, maintenance areas, and so on) for both basic biological sciences and clinical sciences instruction areas. Either the NSF fields on the questionnaire were left blank, or the NASF figure was substituted as an estimate of NSF due to the historical use of "NSF" to imply "NASF". NSF figures were thus ultimately discarded, almost in their entirety.

Page 8A of the HPSQ requests the amount of time that a "typical" student at each level of academic attainment spends in classrooms, laboratories, and patient care facilities. These levels of academic attainment should, in all cases, be reflected on page 10, which requests the number of students at each academic level. Occasionally, the data on the two pages did not correspond by virtue of either (1) the difficulty in obtaining figures regarding the apportionment of graduate students' time; or (2) misunderstanding the definition of graduate student. These questions were ordinarily resolved with each respondent during the telephone follow-up to the manual editing procedure. Best estimates data were accepted regarding time spent in various facilities.

3. The Machine Edit

After each questionnaire was manually edited, keypunched, and key verified, it was processed by a computer program designed to perform those mechanical repetitive tasks and internal consistency checks most amenable to automatic data processing. In addition, this program built the computer-readable files used for generation of the analytical tables used in the report: as a result, the program was required to perform the algorithmic procedures necessary for creating any "derived data fields" (e.g., sums and cross-products) necessary for final report production.

E. FOLLOW-UP AND ASSESSMENT OF NON-RESPONDENTS

The 30 schools with whom non-response follow-up discussions were conducted (including 4 schools which sent non-substantive forms), represent approximately 12% of our respondent population. It is apparent that the facilities configurations of these 30 non-respondents, and, by assumption, the 13 schools which submitted no data at all, are probably not very different from respondents.

Table A.1 supports this finding in its summary figures for the 8 professions surveyed (see column 1). Disparities are greater on a profession-by-profession basis, (see columns 2-9) but it must be realized that the non-respondents' population (of each profession) was quite small and thus subject to large percentage variation.

The total gross square footage reported as controlled by the 30 non-respondent health professions schools was 7,079,000, as compared with 51,862,000 GSF from our 265 respondent schools--a ratio of 7:52 or about 14%. Eighty-two percent of this space was considered satisfactory by the 30 non-respondents, as compared with 83% by the 265 respondents. While respondents reported that about 11.2 million of their existing GSF were HPEA assisted, the non-respondents reported 1.52 million GSF. The portion of controlled GSF constructed with HPEA assistance was thus constant over the two populations, at a percentage just under 22%.

Respondents indicated ongoing new construction (of facilities to be controlled by them) of nearly 15 million GSF, or 29% of their currently controlled Gross Square Footage. 2.7 million GSF of new construction were reported by the 30 non-respondents, or 38% of their currently controlled GSF.

TABLE A.1

COMPARISON OF 265* RESPONDENTS WITH 30 (OF 43) NON-RESPONDENTS (HEALTH PROFESSIONS SCHOOLS ONLY)

	(1) TOTAL		(2) DENTISTRY		(3) MEDICINE		(4) OPTOMETRY		(5) OSTEOPATHY		(6) PHARMACY		(7) PODIATRY		(8) PUBLIC HEALTH		(9) VETERINARY MEDICINE	
	RESP	NON-RESP	RESP	NON-RESP	RESP	NON-RESP	RESP	NON-RESP	RESP	NON-RESP	RESP	NON-RESP	RESP	NON-RESP	RESP	NON-RESP	RESP	NON-RESP
number of schools	265	30	53	5	95	13	10	1	6	2	64	5	5	n/a	13	3	19	1
number of schools as a % of respondents' total	100	11	100	9	100	14	100	10	100	33	100	8	100	n/a	100	23	100	5
allocated GSF as a % of respondents' total	100	14	100	10	100	15	100	15	100	30	100	9	100	n/a	100	24	100	7
% of allocated GSF considered satisfactory	83	82	82	90	83	79	89	100	90	100	89	64	59	n/a	81	95	79	100
% of allocated GSF assisted thru HPEA Act	22	22	44	70	18	17	52	72	23	0	16	5	0	n/a	19	33	13	3
GSF assisted thru HPEA Act as % of resp. total	100	14	100	4	100	8	100	1	100	0	100	0	100	n/a	100	1	100	0
GSF under construction as a % of current GSF	29	38	35	45	30	43	13	0	31	0	31	0	80	n/a	2	49	29	0
% of construction cost from HPEA sources	28	12	36	9	25	9	38	0	62	0	41	0	37	n/a	0	68	33	0
GSF needed (as a % of current inventory)	28	29	3	18	7	30	1	0	0	53	4	60	4	n/a	0	20	8	11
clinical GSF as a % of respondents' total	100	2		†		†		†		†		†		n/a		†		†
number of students* as % of respondents' total	100	11	100	9	100	13	100	9	100	42	100	7	100	n/a	100	36	100	5
% of clinical GSF considered satisfactory	70	66		†		†		†		†		†		n/a		†		†

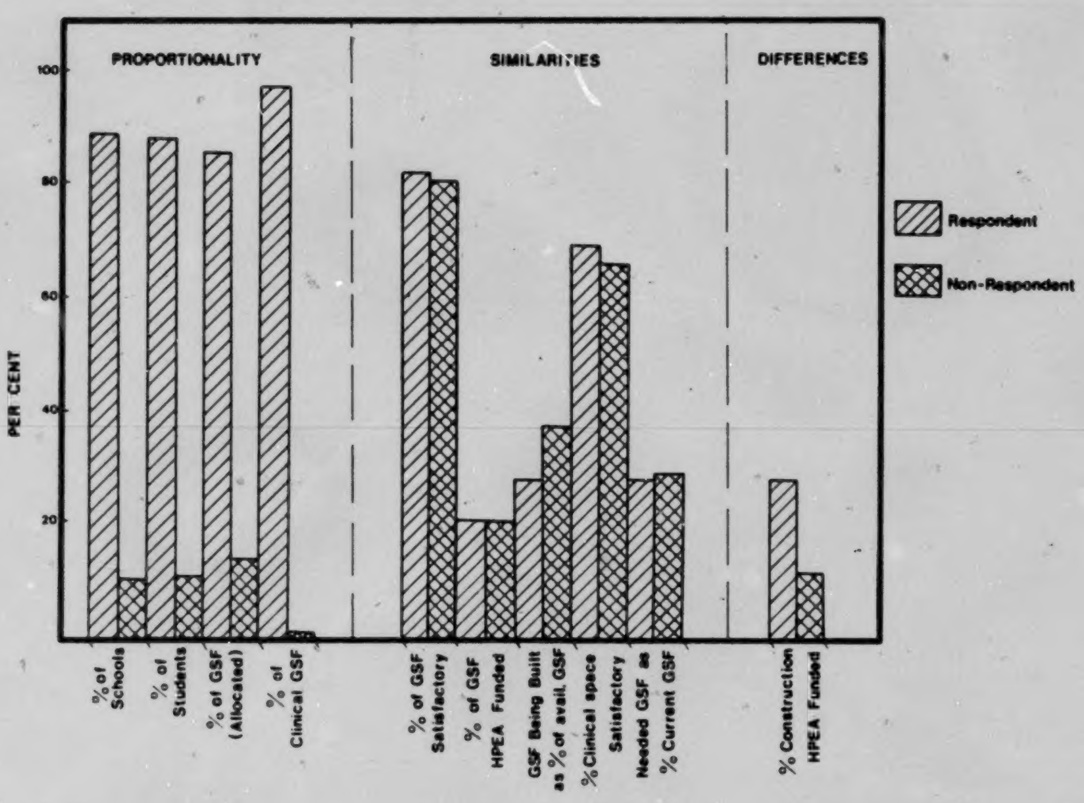
* Includes new and developing schools; excludes non-substantive returns.

†Due to magnitude, this comparison is valid only in the aggregate.

*Source of the enrollment figures for ten of the thirteen nonrespondent schools of Medicine was the Journal of the A.M.A. (Medical Education Issue) November, 1973, Vol. 226 No. 8, pp. 900-901.
n/a indicates "not applicable" since all schools of podiatry responded.

FIGURE A.1

COMPARISON OF 265 RESPONDENTS WITH THIRTY (OF FORTY-THREE) NON-RESPONDENTS



Non-respondents who reported an ongoing construction program appear to have obtained significantly less HPEA assistance per construction dollar than the respondents' population. The respondent group indicated nearly $1.1 billion in existing construction and remodeling programs, with $306 million or 28% coming from HPEA associated sources. Non-respondents, on the other hand, reported that only 12% of their construction and remodeling funds were from HPEA sources, with a total expenditure of $202.6 million and HPEA funding of $24.8 million.

With regard to facilities controlled by health professions schools, the question of space needs again showed close agreement between respondents and non-respondents. Respondents indicated total NASF needs as 9.76 million. Transforming this into a rough estimate of GSF, we multiply by 1.5 and obtain approximately 14.6 million GSF, or 28.1% of the current inventory. Non-respondents reported a GSF need of 2.04 million, or 29% of their aggregate fall, 1973 inventory.

Questions regarding clinical facilities paralleled those previously discussed. In comparison with the gross square footage of clinical facilities reported by respondents, the non-respondents represented only 2.3% of the respondents' total of 132 million GSF of "freestanding hospitals". While respondents reported approximately 70% of this space as satisfactory, discussions with non-respondents showed that 66% of their clinical facilities' Gross Square Footage was satisfactory--a close parallel in view of the non-respondents' limited sample size.

The final comparison provided by the non-respondents' follow-up discussions was that of number of students. Again, the parallelism of the two populations was reasonably close. The 12% ratio of 30 non-respondents to 265 respondents was closely matched by the 11.4% ratio of the two populations' health professions student bodies (non-respondents reported 13,700 combined graduate and undergraduate enrollment; while the (265) substantive responses yielded nearly 120,000 students).

Given the high degree of similarity between the data of respondents and that of those non-respondents contacted, one may assume that for imputation to national figures, the 13 schools which responded to neither the full-survey mailout nor the telephone follow-up of non-respondents represent a subpopulation very similar to the rest of the nation's schools. By the same token, any derived measures which are based upon some relative scale (e.g., NASF per student) may be taken to represent national averages which existed as of fall, 1973.

APPENDIX B

SURVEY CONSULTANTS*

Mr. Gerlandino Agro
Director of Planning and
Construction
New York Medical College

Mrs. Reba Ann Benschoter
Chief, Communications Division
College of Medicine
University of Nebraska

Dr. John A. Biles
Dean, School of Pharmacy
University of Southern
California

Dr. George T. Caleel
Professor of Medicine and
Assistant Dean, Clinical
Education
Chicago College of Osteopathy

Dr. Charles Cornelius
Dean
College of Veterinary Medicine
University of Florida

Dr. Emmett R. Costich
Associate Dean
College of Dentistry
University of Kentucky
Medical Center

Dr. Abe Rubin
President and Dean
Ohio College of Podiatric Medicine

Dr. John H. Romani
Associate Vice President for
Academic Affairs
University of Michigan

Dr. Frank Rogers, Librarian
Denison Memorial Library
University of Colorado Medical
Center

Dr. Jane G. Elchlepp
Assistant Vice President for
Health Affairs
Duke University

Dr. Alden N. Haffner
Dean
State College of Optometry
State University of New York

Dr. Manson Meads
Vice President for Medical Affairs
Bowman Gray School of Medicine

Mr. Eugene L. Staples
Director
West Virginia University Hospital

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* Note: Positions listed are those as of February 1972.

APPENDIX C
THE SURVEY INSTRUMENTS

C1. General

- a. Announcement letter of 5/1/73 to all survey participants
- b. Follow-up letter of 6/4/73 to postcard non-respondents

C2. Health Professions School Questionnaire

- a. Transmittal letter of 5/11/73 for Health Professions School Package
- b. General Information and Instruction Pamphlet for Health Professions
- c. Health Professions School Questionnaire
- d. Postcard to acknowledge receipt of package (used for both instruments)
- e. Appendix I - Definition of Terms (used for both instruments)
- f. Appendix II - Definition of Room Types (used for both instruments)

C3. Parent Institution Questionnaire

- a. Transmittal letter of 5/11/73 for Parent Institution Package
- b. General Information and Instruction Pamphlet for Parent Institution
- c. Parent Institution Questionnaire

a. (ANNOUNCEMENT LETTER TO ALL SURVEY PARTICIPANTS)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH
BETHESDA, MARYLAND 20014

BUREAU OF HEALTH MANPOWER EDUCATION

May 1, 1973

The basic mission of the Bureau of Health Manpower Education, National Institutes of Health, is to stimulate the production of health manpower resources. Some believe that insufficient and inadequate health professions education facilities may be among the primary causes that impede the production of the necessary manpower.

The Division of Physician and Health Professions Education of the Bureau of Health Manpower Education is conducting a national mail survey to identify the quality, condition and various utilization factors of facilities in current use in health professions schools.

During the past several months, RRC International, Inc., Troy, New York, developed a survey questionnaire. They were assisted by 13 consultants from the health professions academic sector, as well as the health professions school associations and interested Federal agencies.

The questionnaire was pretested at nine institutions representing a cross section of health professions education in different parts of the country. All of the schools were visited during the pretest to discuss personally the problems involved in compiling the data necessary to complete the questionnaire. The questionnaires, definitions and instructions were subsequently revised and will soon be ready for a full-scale mailing to some 350 other health professions schools and parent universities.

Within the next few weeks, you will receive the survey package. We urge you to examine the contents of this package prior to assigning it to a member of your staff for completion. The questionnaire deals with complex issues, and, as a result, requires a person or group familiar with your institution's facilities and their usage, with your school's educational process and, perhaps most important, with the administrative officials most knowledgeable in these areas.

No report or study of the educational facilities approaches the focus and in-depth effort attempted by this survey and we recognize that it imposes a major demand on the respondent institutions. However, the results of the pretest revealed that it provides internal value to the respondent. We believe that such a survey is essential to develop meaningful facilities data.

It is important that the staff of RRC International, Inc., establish communications with each institution so that individual problems may be identified and solved with minimal effort on the part of the respondents. The survey package will contain a post card that should be used to identify the person who will be responsible for compiling and reporting the requested data.

Please be assured that the data you provide will be treated as professionally privileged. The final report prepared from the survey will not identify specific data of any single institution. A copy of this report will be forwarded to each respondent.

We look forward to your cooperation in this important study.

Sincerely yours,

K. M. Endicott

Kenneth M. Endicott, M.D.
Director
Bureau of Health Manpower Education

Harry W. Bruce Jr

Harry W. Bruce, Jr., D.D.S.
Director
Division of Physician and
Health Professions Education

b. (FOLLOW-UP LETTER TO POSTCARD NON-RESPONDENTS)

June 4, 1973

On May 11, 1973 we mailed to you the Survey on Health Professions Education Facilities which we are conducting for the Bureau of Health Manpower Education of the National Institutes of Health. The survey contained a postcard which we asked to be returned to us as soon as you designated your survey coordinator. The postcard is important since it permits us to establish communication with your institution and to facilitate solution of any survey problem that you may have with minimal effort on your part.

Our records show that we have not yet received your postcard. In the event it has been misplaced, we are enclosing a duplicate postcard which we ask you to please complete and return as soon as possible. Please contact me immediately on 518-274-8112 if you have not received the survey package.

We thank you for your time and kind assistance in this matter.

Sincerely yours,

A. Baisuck

Dr. Allen Baisuck
Project Director
Health Professions Education
Facilities Survey

AB/ljn
Enclosure

C2. Health Professions School Questionnaire

a.(TRANSMITTAL LETTER FOR HEALTH PROFESSIONS SCHOOL QUESTIONNAIRE PACKAGE)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH
BETHESDA, MARYLAND 20014

BUREAU OF HEALTH MANPOWER EDUCATION

May 11, 1973

The Health Professions School Questionnaire on facilities as described in our letter of May 1, 1973 is enclosed.

Also enclosed are:

1. A General Information and Instruction Pamphlet citing the purpose and scope of the survey, the page-by-page instructions for completing the questionnaire, and other information;
2. Appendix I - Definitions of Terms Used in the Questionnaire;
3. Appendix II - Definitions of Column Headings on the Questionnaire.

The questionnaire deals with facilities in your school and complements the questionnaire on joint-use facilities that has been forwarded for completion to your parent institution, if applicable.

The complexity of the survey indicates that a person very familiar with your school and the administrative officials be assigned the responsibility for compiling and reporting the requested data.

Personnel of RRC International, Inc., the agency conducting the survey for us, will be on call to help resolve difficulties, or to suggest solutions to common problems. We ask you to complete and return the enclosed post card to RRC as soon as possible to establish communication. Should any question arise which needs clarification, do not hesitate to contact RRC International, Inc., as follows:

Dr. Allen Kaisuck, Project Director
RRC International, Inc.
1125 Peoples Avenue
Troy, New York 12181
Telephone: (518) 274-8114

We hope that you will be able to complete and return the questionnaire to RRC by July 16, 1973. The results of this survey are important to everyone, and its success depends upon the effort of each and every respondent. This survey represents an inventory of the total health professions education sector; therefore, a 100% response will improve its usefulness.

We know that the survey imposes a major demand on all respondents, but we think that the results will be of internal value to respondents. The results of the survey will be published and made available to each respondent.

Again, we thank you for your cooperation in this important undertaking.

Sincerely yours,

K M Endicott

Kenneth M. Endicott, M.D.
Director
Bureau of Health Manpower Education

Harry W. Bruce Jr

Harry W. Bruce, Jr., D.D.S.
Director
Division of Physician and
Health Professions Education

Enclosures

DHEW PHS NIH BHME

b. GENERAL INFORMATION AND INSTRUCTION PAMPHLET

SURVEY OF HEALTH PROFESSIONS EDUCATION FACILITIES IN THE PUBLIC AND PRIVATE NONPROFIT INSTITUTIONS OF THE UNITED STATES--1973

PURPOSE AND SCOPE

One of the basic missions of the Bureau of Health Manpower Education, National Institutes of Health, is to stimulate the production of health manpower resources needed for the delivery of health care in the Nation. Some professional judgment holds that insufficient and inadequate health professions educational facilities may be among the primary causes impeding the production of the necessary manpower.

The Division of Physician and Health Professions Education of the Bureau of Health Manpower Education considers it essential to conduct a national mail survey to verify and identify any existing facility inadequacies in health professions schools. This will be done by type of school, geographic location, and other factors. The survey will also assess the capacity of schools to increase their manpower outputs within existing resources. Survey results, in conjunction with other information, will assist the Executive Branch of the Government and the Congress to define more accurately their goals and priorities in the health area, and will aid in formulating a solution to the facilities aspects of the manpower problem.

Although many reports and studies bear on the facilities problem, none approaches the in-depth effort proposed by this survey. While it is recognized that the survey imposes a major demand on the respondent institutions, it is felt that such a survey is essential if we are to develop meaningful facilities data aimed ultimately at aiding all types of health professions schools and significantly advancing the Nation's health care system.

Please be assured that the data you provide will be treated as professionally privileged. Reports prepared from the survey will not reveal specific data of any single institution. A copy of the final report will be forwarded to each respondent.

SUBJECT MATTER OF SURVEY

Data is sought on the amount, types, and condition of space currently used for undergraduate, graduate, and continuing education in the Nation's health professions schools. Information is also sought as to the numbers of students, faculty and support staff occupying the space, and the degree of overcrowding, if any. The intensity of space utilization will be studied, as well as information concerning the various needs or problems confronting the respondents. Data on ongoing construction and remodeling, and a projection of future such activities round out the survey.

DEVELOPMENT OF THE SURVEY

Initial planning of the survey began in July, 1970. Objectives, uses and justification of the survey were carefully spelled out. A contract was let with Rensselaer Research Corporation (now, RRC International, Inc.) of Troy, New York to assist in this major undertaking. A panel of 13 consultants, representing the eight health professional disciplines and expertise in teaching support services, libraries and hospitals, was appointed and met periodically with NIH and RRC to provide advice and guidance in the survey. All the health professions school associations, as well as interested Federal and non-Federal agencies, were also consulted and their advice sought. Finally, the survey forms were pretested at nine health professions education institutions prior to the full-scale mailing to approximately 300 existing and developing schools of dentistry, medicine, optometry, osteopathy, pharmacy, podiatry, public health and veterinary medicine.

DEFINITIONS

Due to the variety of health professions schools being surveyed, it is anticipated that much of the terminology relevant to this effort will not be standard over the nation. To help assure compatibility in reporting procedures, those terms most critical to the proper completion of the questionnaire have been defined in Appendices I and II.

Appendix II, containing the definitions of various facilities types (and corresponding directly with the reporting requirements of the survey instrument) has been separated from Appendix I for ease of reference.

DUE DATE AND RETURN OF QUESTIONNAIRES

The questionnaires should be completed and forwarded to the following address by July 16, 1973:

Health Professions Facilities Survey
RRC International, Inc.
1125 Peoples Avenue
Troy, New York 12181

OVERVIEW OF HEALTH PROFESSIONS SCHOOL QUESTIONNAIRE (WHITE)

Each of the approximately 300 health professions schools in the Nation is requested to complete a Health Professions School Questionnaire. If the school is a free-standing institution, this will be the only form submitted. If the school is part of a university, then a second form (the Parent Institution Questionnaire) will also be completed by the parent university or appropriate controlling subagency such as a health sciences center.

Page 1:	Identifies and characterizes Respondent.
Pages 2A and 2B:	Obtain the current inventory of space allocated to Respondent. Request square footage of space by type and condition, amount constructed with HPEA assistance, and numbers of rooms and student stations.
Page 3:	Elicits nature and extent of joint utilization of non-hospital space as of the survey date, and after the completion of ongoing and fully authorized construction and remodeling.
Page 4:	Obtains data on ongoing and fully authorized construction and remodeling of space to be allocated to Respondent. Also, requests an estimate of the space inventory following the completion of the construction and remodeling, and the needs still existing at such time.
Page 5A/ 5B:	Requests data on the extent to which Respondent uses inpatient, ambulatory and didactic facilities in owned or major affiliated hospitals and clinics; and what construction and remodeling of these facilities is currently underway or planned for completion by 1983.
Page 5C:	Requests data on hospitals and clinics used by Respondent, but not used as major teaching units.
Page 5D:	Obtains data on students' practical experience obtained at health-care facilities not reported on pages 5A/5B or 5C.
Page 6:	Identifies and quantifies the availability of audiovisual facilities for Respondent's academic purposes. Requests supplementary data on animal facilities, instructional space, and room use.
Pages 7A and 7B:	Page 7A depicts the amount of time currently spent in didactic space and patient areas by Respondent's students. If major curriculum changes or innovations are underway, their expected impact is described by completing page 7B.
Page 8:	Provides an opportunity for the Respondent to identify the types and amounts of additional resources required to satisfactorily accommodate his students.
Page 9:	Attempts to determine the levels of student increases possible under varying levels of Federal funding, and solicits Respondent's construction plans and purposes over the next 10 years.

Page 10: Obtains data on the current numbers and future projections of students, faculty and support staff.

Page 11: Solicits Respondent's general comments or clarifications as to any of his responses to the questionnaire.

GENERAL INSTRUCTIONS

1. It is urged that the instructions in this pamphlet be utilized while the questionnaire is being completed. Circled item numbers on the questionnaire indicate items for which necessary instructions have been provided. Should any question arise regarding the proper reporting of space, or interpretation of instructions, definitions, and terminology please call RRC International, Inc. collect at:

   518-274-8112 Monday through Friday
   -8114 between the hours of 8:30 A.M. and 5:00 P.M.
   -8242 (Eastern Time Zone)

   Individuals qualified to discuss the form will be available for your assistance.

   It is also suggested that much time and effort may be saved if Appendices I and II are studied prior to any attempt to complete the questionnaire.

2. All square footage and dollar figures over the value 500 shall be rounded to the nearest thousand and stated in thousands. For example, 23,748 net assignable square feet shall be reported as 24; 17,500 would be reported as 18; $17,499 as $17. Figures under 500 should be rounded and reported as one-place decimal portions of 1000. Thus 380 square feet would be reported as ".4".

3. Unless specifically stated otherwise, "Respondent's students" should be construed to mean Respondent's students of Dentistry, Medicine, Pharmacy, Podiatry, Public Health, Optometry, Osteopathy, or Veterinary Medicine, whichever is applicable. Other students, (e.g., allied health) either taught by Respondent's faculty, using Respondent's facilities, or both, should not be included except as explicitly requested.

4. The survey pretest indicated that a critical first step in the data-gathering phase of Respondent's effort is the development of a room-by-room listing of all facilities currently available for use. Many campuses will have such a listing, at least on a campus-wide basis, as a result of the Office of Education's HEGIS efforts (Higher Education General Information Survey). In other cases, floor plans will provide an acceptable substitute for the room-by-room listing.

   For each room available for Respondent's use, the following information should be listed:

   (a) Whether or not room is allocated to Respondent (see definition of "Allocated" in Appendix I).

   (b) Number of hours per (academic) year room is used by Respondent. (Classrooms, class laboratories, and auditoriums only.)

   (c) If room is allocated to Respondent, number of hours per (academic) year it is used by other than "Respondent's students" (as defined above).

(d) Type of room.

(e) Ownership of building in which room is located.

(f) Floor area.

(g) Number of student stations.

(h) Condition of the room as related to its use. (Satisfactory for purpose used, needs remodeling, needs replacement).

(i) Whether or not room was at least partially constructed or remodeled with HPEA assistance.

The same data elements (except for condition of space) should also be obtained for:

(a) rooms in buildings which are undergoing construction or are fully authorized for construction and will, upon completion, be allocated to respondent; and

(b) rooms (of the types defined in Appendix II) which are found in owned and major affiliated hospital and clinic facilities.

Proper tallying of subsets of the above data will essentially yield the information necessary to fill out pages 2A, 2B, 3, 4 and 5A/5B.

Furthermore, it is likely that from the school's registrar, scheduling officer, and curriculum planners (or equivalents) can be obtained insights into student instructional load as related to types of space (pages 7A and 7B), and the student, faculty and staff populations (page 10). Data for the remainder of the form will be found in a variety of offices.

5. Please note that not all pages or boxes will be completed by all Respondents. The various pages and the large number of boxes are included in the questionnaires so that every Respondent will be able to provide the entries that pertain to his school. Boxes which do not apply to Respondent may either be filled with zeroes or left blank.

6. All space in residence halls (dormitories, food service areas, etc.) is excluded from this survey.

7. The term "as of the survey date" as used in these instructions (and on the questionnaire) refers to the approximate date of Respondent's receipt of this survey package.

8. Each person responsible for filling out a specific page or pages of the form should be given a complete set of Appendices I and II, these General Instructions and all appropriate specific instructions.

PAGE-BY-PAGE INSTRUCTIONS FOR COMPLETING THE HEALTH PROFESSIONS SCHOOL QUESTIONNAIRE (WHITE)

◀PAGE 1▶ General Information

General Data from the NIH computer files have already been entered. Please correct any erroneous entries and fill in any items left blank.

Specific

Item 2 The IMPAC code is an internal code used by NIH. Do not specify this code if it has been left blank.

Item 4 Check the one designation that best describes the health professional curriculum administered by Respondent. Check item (i) only if Respondent is a combination school (such as a School of Medicine and Dentistry) whose facilities are inseparable by type of school. However, if Respondent is a combination school whose component schools use separate facilities, he should complete a separate questionnaire for each "school" and check the applicable box on each questionnaire. In addition, the two resulting forms should be annotated (see page 11) to reflect the fact that the separation was made.

Item 5 For inseparable "combination schools" only, enter the number of students (and their full-time equivalents) of each health profession. Include only those students of the eight health professions listed in items (a) through (h) of question 4, above.

Item 8 See definition of "locale" of Respondent.

◀PAGE 2A▶ Owned Facilities Currently Allocated to Respondent

General

(a) See definition of "owned facilities".

(b) Only those facilities allocated to Respondent should be reported on this page. (See Appendix I for definition of "allocated facilities".)

(c) Do not report freestanding hospitals and clinics on this page (see def.). Report only on-site patient-care and associated support facilities (see definition of on-site patient-care facilities in Appendix II).

(d) If Respondent is in the process of organizing a new health professions school, and has, as yet, no allocated facilities, write "NEW" across the page in bold letters and continue to page 3. (A new school should complete page 2A if owned facilities are allocated to it, but it has, as yet, no students.)

Specific

Item 1 See Appendix I for definitions of Net Assignable Square Feet (NASF), Gross Square Feet (GSF) and Net Square Feet (NSF). In cases where only a part of an entire building is considered to be allocated to Respondent, find the ratio of Respondent's NASF to the building's total NASF and use this percentage as the multiplier for determining the portion of the building's GSF and NSF that is allocated to Respondent.

Item 2 See Appendix I for the definition of HPEA. Even if a given room was only partially funded through the HPEA Act, include that room's total net assignable square footage.

Item 3 Report in columns B through K the total net assignable square feet (NASF) of each type of space (including service areas) referred to in the column headings. Please see Appendix II for the types of space to be reported under each column heading. Do not include facilities being constructed as of the survey date (these will be reported on page 4). Space which is currently unavailable for use due to remodeling should be reported as "other space" (column K).

Item 6 The number of student stations in library space may be approximated by a count of the number of chairs available for student seating in all library areas.

Item 7 Do not include service areas when reporting number of rooms.

Item 9 For each type of space, the need for additional NASF is equal to the total NASF needed (to accommodate current enrollment) minus the NASF available for use (regardless of ownership) as of the survey date.

In determining NASF available, do not include space involved in ongoing construction and remodeling unless it represents space which is currently usable. (It is recognized that completion of ongoing construction and remodeling may reduce some or all of the needs reported.)

Item 10 The list below indicates five possible reasons for the needs expressed in item 9. For each type of space needed, enter in item 10 the letter code of the reason which best applies:

A. Relief of overcrowding (Code = A)

B. Poor physical condition (Code = B)

C. Replacing obsolete space (Code = C)

D. Missing from current inventory (Code = D)

E. Other (specify on page 11) (Code = E).

Items 13-17 Do not report freestanding hospital or clinic facilities (see Appendix I for definition of "freestanding") in this section. Use items 13-14 to report on-site inpatient care facilities and items 15-17 to report on-site ambulatory care facilities. Respondent should consult the definition of "Respondent's students".

If inpatient or ambulatory facilities (or both) are used by students other than "Respondent's students" as defined, please use page 11 to report the average number of other students using the space at any one time. Separate ambulatory from inpatient facilities as appropriate.

◀PAGE 2B▶ Rented, Leased or Other Facilities Currently Allocated to Respondent

Apply instructions from page 2A as follows, including "General", b-d:

For item 1 on page 2B: see instruction for item 1 of page 2A

2	3
4	6
5	7
7	9
8	10
11-15	13-17

Important: Those Respondents who reported existing needs on page 2A, items 9-11 should not fill out items 7-9 on page 2B.

◀PAGE 3▶ Joint-Use Space

General This page elicits the nature and extent to which non-clinical facilities are (or will be) jointly-utilized by health professions schools. The page covers (1) space used by, but not allocated to, Respondent; and (2) space allocated to Respondent but also used by other than "Respondent's students" (e.g., allied health or other health professions).

For reporting purposes, combine "owned" space with space that is not owned.

Specific

A. Current Usage

Item 1 Columns A and B Report in columns A and B all rooms (excluding service areas) which satisfy both of the following criteria:

(1) the room is not allocated to Respondent;

(2) during 25 or more hours per academic year, at least 25% of the room's occupants are "Respondent's students" (see definition).

Item 1 Columns C and D Report in columns C and D all rooms (excluding service areas) which satisfy both of the following criteria:

(1) the room is allocated to Respondent;

(2) during 25 or more hours per academic year, at least 25% of the room's occupants are not "Respondent's students".

Item 3 Report in columns A and B the total number of hours each type of room in item 1 is used by "Respondent's students" during the academic year. For example, if classroom A is used 33 hours, and classroom K is used 61 hours, report the total hours used as 94. Employ similar methods in reporting other disciplines' usage of Respondent's allocated space in columns C and D. Report in columns C and D the total number of hours each type of room in item 1 is used by other than "Respondent's students" during the academic year.

B. Usage Upon Completion of Ongoing Construction and Remodeling

Apply the sense of the instructions for section A.

◀PAGE 4▶ Ongoing and Fully Authorized Construction and Remodeling

General

(a) Report only that construction and remodeling of space which will be allocated to Respondent.

(b) Do not report any past construction or remodeling.

(c) Exclude construction and remodeling of freestanding hospitals or clinics. (See Appendix I for definition of "freestanding".)

Specific

Items A.1., A.2. These items attempt to obtain a total overview of the ongoing construction and remodeling of space allocated to Respondent. (See Appendix I for definitions of gross and net square feet.) Respondent should report only his pro-rata share of the costs, GSF and NSF of buildings which are also to be occupied by other schools. This share may be computed by finding the NASF of the entire building, and calculating the fraction which is allocated to Respondent. This fraction may then be applied to both cost and square footage figures prior to posting.

In column d ("NSF of HPEA Assist"), enter the Net Square Footage of space whose remodeling or construction was at least partially funded with HPEA assistance. Respondent should enter only that portion of the HPEA funded NSF considered allocated to his particular school.

Items B.1., B.2. Answer only if ongoing and fully authorized construction and remodeling will result in a change to the number of beds and/or ambulatory patient stations used by Respondent's students. If the number of beds and/or patient stations will decrease, report the decrease by inserting a minus sign in front of the difference.

Items C.1-C.4. The sum of items C.1.-C.4. must agree with item A.2., column b. Where purposes of construction overlap, and clear-cut separations by the four purposes are difficult, please provide your best estimates.

Items D.2.a.-D.2.i. Report the same fractional parts (of the actual amounts from each source) as used in items A.1. and A.2, unless more specific information is available.

Item E.1. Confine the reporting of remodeling to only those rooms that are actually undergoing remodeling (or are fully authorized to be remodeled). When remodeling converts space from one room type to another, report the space in terms of the new room type. If any space being remodeled was included in "other space" (column K) on page 2A, it should now be reported under the appropriate column headings.

Items F.1.-F.4. In estimating the revised inventory of allocated space, include all ongoing and fully authorized construction and those portions of the space reported on pages 2A and 2B which will be retained.

In item F.3., the number of student stations in library space may be approximated by a count of the number of chairs expected to be available for student seating in all library areas.

When reporting numbers of rooms in item F.4., do not include service areas.

Item G.1. Page 10, items 1 and 8 (column C) request the number of "Respondent's students" to be accommodated after completion of ongoing construction and remodeling. If this construction and remodeling will not satisfactorily accommodate the number of students reported, express the additional facility need here.

Item G.2. The list below indicates five possible reasons for the needs expressed in item G.1. For each type of space needed, enter in item G.2. the letter code of the reason which best applies:

A. Relief of overcrowding (Code = A)

B. Poor physical condition (Code = B)

C. Replacing obsolete space (Code = C)

D. Missing from the inventory (Code = D)

E. Other (specify on page 11) (Code = E)

◀ PAGE 5A/5B ▶ Major Hospitals and Clinics Used by Respondent

General

(a) A separate page 5A/5B should be prepared for each owned or major affiliated hospital or clinic used by the Respondent. See Appendix I for the definition of a "major affiliated hospital or clinic" before completing this page. (Use supply of extra copies of page 5A/5B, as necessary.)

(b) Column H (Administrative Offices) should include only those offices assigned to administrative personnel of the educational program (e.g., Dean of Students and Registrar). Such offices as the admitting office, hospital administrator, finance office, maintenance office, etc., should be excluded.

(c) Column I (Animal Facilities) excludes laboratory and associated service facilities for animals used for diagnostic purposes. Should such diagnostic laboratories be used for student instruction, they should be reported on page 5D.

(d) If Respondent does not presently use a (freestanding) owned or major affiliated hospital or clinic and is not currently constructing or remodeling one, write "NONE" across the page in bold letters and continue to page 5C.

(e) See Appendix I for definitions of GSF (Gross Square Feet), NSF (Net Square Feet) and NASF (Net Assignable Square Feet).

Section A

Specific

Item 3 See Appendix I for definition of "Locale".

Item 4 Report the GSF of the entire hospital or clinic even though Respondent may use only a portion of that facility for academic purposes.

Items 5 and 6 Even if a given area (or room) was only partially funded through the HPEA Act (see definition) include that area's total square footage. Consider only assistance to or through Respondent. Exclude current projects.

Item 7 Schools of Veterinary Medicine should substitute ANIMAL HOLDING UNITS for "Beds". If two (or more) schools make use of the same beds, and it is thus not possible to distinguish between Respondent's beds and others, please indicate on page 11 the percentage of the students from the two (or more) schools which are "Respondent's students" (see definition).

Item 8 See definition of "Respondent's students".

Item 9b For a given room, the number of patient stations shall be the number of patients who could be treated simultaneously in that room. Report the total number of patient stations in all examining and treatment rooms available for use by "Respondent's students".

Item 11 See definition of "Respondent's students".

Item 14 Do not include service areas when reporting number of rooms.

Item 15 For each type of space, the need for additional NASF is equal to the total NASF needed (for "Respondent's students"--see Appendix I for definition) minus the NASF available for use as of the survey date.

In determining NASF available, do not include space involved in ongoing construction and remodeling unless it represents space which is currently usable. (It is recognized that completion of ongoing construction and remodeling may reduce some or all of the needs reported.)

Item 16 The list below indicates five possible reasons for the needs expressed in item 15. For each type of space needed, enter in item 16 the letter code of the reason which best applies:

A. Relief of overcrowding (Code = A)
B. Poor physical condition (Code = B)
C. Replacing obsolete space (Code = C)
D. Missing from current inventory (Code = D)
E. Other (specify on page 11) (Code = E).

Item 19 The sum of a, b, and c should equal item 12, column A.

Section B

General

(a) Report only that construction and remodeling of space which will be available for use by Respondent upon completion.

(b) Do not report any past construction or remodeling.

Specific

Item 1 Column 1 Respondent should report only that portion of the total construction or remodeling cost associated with the part of the building available for his use. Unless such figures are directly obtainable, report the following fractions of both the total construction and remodeling costs:

$$\frac{\text{NASF of Construction (remodeling) Available for use by Respondent}}{\text{Total NASF of Construction (remodeling) of Building}}$$

If the reported space will be available for use by two or more health professions schools which are constructing (or remodeling) the space as a joint effort, then:

(a) the entire cost should be reported by (each) Respondent; and

(b) page 11 should be used to identify the other health professions schools involved in the joint effort.

Columns 2 and 3 Unless the requested figures are directly obtainable, report the same fractions of GSF and NSF, respectively, as were computed for answering the cost questions of column 1.

Column 4 Enter the Net Square Footage of space whose remodeling or construction was at least partially funded with HPEA assistance. Thus, if remodeling of a given room was only partially funded with HPEA assistance, include the total Net Square Footage of that room.

Item 2 Answer only if ongoing and fully authorized construction and remodeling will result in a change to the number of beds and/or patient stations used by Respondent's students. If the number of beds and/or patient stations will decrease, report the decrease by inserting a minus sign in front of the difference.

Item 3 The sum of a, b, c and d must agree with item 1b, column 2. Where purposes of construction overlap, and clear-cut separations by the four purposes are difficult, please provide your best estimates.

Item 4b For items 4b.1-4b.9, report the same fractional part of the actual amount from each source as was computed for obtaining the total cost figures in items 1a and 1b, column 1.

Item 6 In estimating the revised inventory, include all ongoing and fully authorized construction, and those portions of the current inventory which will be retained.

Item 7 In estimating the remaining need, first estimate that enrollment to be accommodated upon completion of the construction and remodeling.

Item 8 See instruction for item 16 in section A.

Section C

Item 1 Answer all questions in terms of space available for use by "Respondent's students". Only pro-rata shares of GSF and NSF should be reported unless two or more schools will have access to the same space. Again, in this latter case, the total GSF and NSF should be reported, and the names of the cooperating schools entered on page 11.

Item 2 The sum of lines a, b, c and d should equal the figure reported in item C.1.b.

◀PAGE 5C▶ Other Hospitals and Clinics Used by Respondent

General

(a) Report each hospital and clinic (used by Respondent) that is neither owned nor used as a major teaching unit.

(b) Schools of Veterinary medicine should substitute ANIMAL HOLDING UNITS for beds.

(c) Although students may, as part of their formal education, obtain practical experience in private practicioners' offices or other facilities of various types, exclude such facilities from this page (they will be reported on page 5D).

Specific

Columns J and K See definition of "Respondent's students".

Column N For a given room, the number of patient stations shall be the number of patients who could be treated simultaneously in that room.

Columns O and P See definition of "Respondent's students".

Column R There are many reasons why a given hospital or clinic may not currently be used as a major affiliate. For each hospital or clinic reported, select, from the list below, the one reason which best applies and enter the corresponding letter in column R.

A: Lack of needed teaching facilities specified in columns A-H.

B: Distance from didactic facilities.

C: Lack needed faculty and/or staff.

D: Interpersonal relationships between administrations must be strengthened.

(continued)

E: Clinical material not appropriate by virtue of numbers, length of stay, nature of afflictions, etc.

F: Other problems.

G: No problem - would make adequate major affiliate, but not currently needed by Respondent.

◀PAGE 5D▶ Other Facilities Available for Students' Practical Experience

General If a part of the Respondent's curriculum involves activities in which students obtain practical experience outside of the clinical settings reported on pages 2A, 2B, 5A/5B and 5C, please report the nature of this experience on this page. Due to the wide variety of possibilities involved, it is requested that the Respondent report the following for each different type of experience:

(a) The nature of the facility used;

(b) The number of facilities of similar nature;

(c) The number of students using the facility per year;

(d) The type of activity best describing the nature of the practical experience;

(e) The number of units of such activity available per year for Respondent's student instruction.

The figure below illustrates possible content of page 5D, and indicates a sample of the kinds of activities which might be reported by schools of different types. Note that multiple facilities of the same type are aggregated.

FACILITY TYPE	NUMBER OF SUCH FACILITIES	NUMBER OF RESPONDENT'S STUDENTS USING THESE FACILITIES PER YEAR	TYPE OF ACTIVITY	NUMBER OF ACTIVITY UNITS PER YR.
Physician's Office	20	25	Patient Visits	1,525
O.E.O. Neighborhood Health Center	1	50	Patient Visits	20,300
Poison Control Center	2	60	Telephone Call	4,200
Community Pharmacies	6	50	Prescriptions Filled	62,300
Veterinarian's Offices	8	10	Patient Visits	2,500
Farms	4	25	Farm Visits	6,200

◀PAGE 6▶ Audiovisual Facilities and Room Usage Data

Part A

General Refer to Appendix I for the definition of "Audiovisual Teaching Support Facilities".

Specific

Items 1-5 Include all facilities available for use, whether or not they are located in space allocated to Respondent.

Item 6 Answer "yes" to this question only if the "Office of Audiovisual Services" (or equivalent) is within the administrative hierarchy of Respondent's health professions school.

Part B Refer to Appendix I for the definition of "basic biological" and "clinical sciences" instruction. Use line B3 for those instances in which the primary use of instructional facilities cannot be classified as either basic biological science or clinical science. Do not include rooms located in freestanding hospitals or clinics.

Part C "All animal facilities" means those found in both the nonclinical and clinical settings (pages 2A and 2B column I and page(s) 5A/5B column I). The three percentages reported should total 100% unless Respondent has no such facilities. In the latter case, zeroes should be entered in all three boxes. As per the definition of "Animal Facilities", schools of Veterinary medicine should exclude areas for animal patient care.

Part D

General

(a) If Respondent is a newly forming school which has, as yet, no students, skip this section.

(b) See Appendix II for definition of "Special Purpose Laboratory".

(c) Although service areas should not be included in the count of rooms (columns A, D, and G), a room should be considered utilized during the use of its associated service area if such use makes the room itself unavailable.

(d) Include allocated space only (from pages 2A and 2B).

Specific

Items D.1.-D.6.

Columns A,D,G Please note that both classroom-type and auditorium facilities are included.

Columns B,E,H The room usage data for columns B, E and H may be computed as follows:

Step 1 - For each room of a given size and type (e.g., the 1-16 station classrooms of item D.1 column A), find the total number of hours per academic year that the room is occupied for academic purposes.

(continued)

Step 2 - Aggregate the results of step 1 for all rooms of that station-size and room type.

Step 3 - Post the resultant total in the appropriate box (in this case item D.1., column B).

Step 4 - Repeat the process for each size and room type.

Columns C,F,I — Curriculum changes and other factors can, over time, cause a mismatch between available room sizes and needed room sizes. For each room size, enter the letter code (see list, below) which best describes the usage problem for that size.

A.	Usually overcrowded to a minor degree	(Code = A)
B.	Usually overcrowded to a major degree	(Code = B)
C.	For most purposes, size is too large: typically, less than 25% of stations are occupied when room is in use	(Code = C)
D.	For most purposes, size is too large: typically, between 25% and 60% of stations are occupied when room is in use	(Code = D)
E.	Size is proper for our purposes, but need more rooms of that size	(Code = E)
F.	Other problem (specify on page 11)	(Code = F)
G.	No particular problem at present	(Code = G)

Part E — Enter the code letter which best describes the match between current enrollment and the capacity of existing Library space allocated to Respondent:

A.	Room for 20% enrollment growth or more	(Code = A)
B.	Some room for enrollment growth (less than 20%)	(Code = B)
C.	Currently a good match	(Code = C)
D.	Somewhat overcrowded	(Code = D)
E.	Highly overcrowded	(Code = E)

◀PAGE 7A▶ Current Instruction of Respondent's Students

General (a) Report educational activities of "Respondent's students", only. (See definition.)

(b) Columns A-D represent time spent in the classrooms, class laboratories, and on-site patient care areas reported on pages 2A, 2B, and 3. Columns E-H refer only to time spent in owned and major affiliated hospitals and clinics reported on pages 5A/5B.

Specific

Item A The years indicated in the stub column ("first year undergraduate", "second year undergraduate", etc.) are meant to correspond to the level of Respondent's instruction being obtained by the student. Thus, all schools with an undergraduate program should report students in the first year of that program as "first year undergraduates", regardless of their previous education. (These levels will not necessarily coincide with the terms "first year student", "second year student", etc., defined under the capitation provisions of the Comprehensive Health Manpower Training Act of 1971.)

Items B.1.-B.2. For those schools in which the length of the academic week or year varies by level of instruction, Respondent should indicate the time period applicable to the majority of the students at the school. If Respondent needs to clarify this situation, he may do so on page 11.

◀PAGE 7B▶ Instruction of Respondent's Students: Following Major Curriculum Changes or Innovations

General (a) Complete page 7B only if major curriculum changes or innovations are anticipated or underway. Please provide your best estimates of what the students' activities will be after these changes are implemented.

(b) Major curriculum changes and innovations include: significant compression in the number of years of health professions education; major redesign of curricula; increased usage of auto-tutorial, computer-assisted, or audiovisual devices; lengthening of the academic year; etc.

(c) Employ instructions for Page 7A.

◀PAGE 8▶ Growth Potential

Specific

Item 3 Answer items 3a and b as though:

(a) all ongoing and fully authorized construction and remodeling (if any) have been completed;

(b) any curriculum changes planned during the construction period have been implemented; and

(c) the size of the student body is that which is to be accommodated upon completion of ongoing and fully authorized construction and remodeling (see page 10, column C).

Enter the needed resources in columns A-N in terms of FTE's, thousands of dollars, thousands of NASF, and numbers, as per column headings.

Item 4 Please enter in the stub, the percentage and number by which the Respondent feels his enrollment as of the survey date could be increased in the short-term (less than two years). Enter required resources in columns A-N in terms of FTE's, thousands of dollars, thousands of NASF, and numbers, as per column headings.

Item 6 Item 6 should describe practical limitations on Respondent's ability to achieve the enrollment increases reported in items 3 and 4: for example, insufficient availability of clinical material; state laws; limitations on further geographical expansion; local zoning ordinances; construction or remodeling codes and regulations; absence of an auditorium; shortage of parking facilities; transportation facilities.

◀PAGE 9▶

Section B Future Construction and Remodeling

General (a) The estimates reported should reflect as realistically as possible such constraints as the projected availability of construction funds, planning lead-time, available operating funds, desired growth rate in the size of the health professional student enrollment, and availability of faculty.

(b) Except for on-site patient care facilities, (see definition) the section excludes hospitals and clinics.

Specific

Item 3 The sum of items 3a-3d must agree with item 1. Where purposes of construction overlap, and clear-cut separations by the four purposes are difficult, please provide your best estimates.

◀PAGE 10▶ Students, Faculty and Support Staff

General Please note the instruction (concerning first year students, second year students, etc.) for items 1-6, page 7A of the questionnaire.

Specific

Items 1-10 See Appendix I for definition of "Respondent's Students".

Items 11-20 Include all students using Respondent's facilities but not considered "Respondent's Students" for the purposes of this survey.

Items 16-20 See Appendix I for definitions of "other students".

Item 23 See Appendix I for the definition of "support staff".

OMB 68-S73014
JANUARY 31, 1975

c. Health Professions School Questionnaire

DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
NATIONAL INSTITUTES OF HEALTH
BUREAU OF HEALTH MANPOWER EDUCATION

SURVEY OF HEALTH PROFESSIONS EDUCATION FACILITIES IN THE NONPROFIT SECTOR: 1973

HEALTH PROFESSIONS SCHOOL QUESTIONNAIRE

SAMPLE

1. NAME OF HEALTH PROFESSIONS SCHOOL:
ADDRESS: STREET CITY STATE ZIP

② IMPAC CODE

3. NAME OF PARENT INSTITUTION (IF APPLICABLE)
ADDRESS: STREET CITY STATE ZIP

④ TYPE OF HEALTH PROFESSIONS SCHOOL (CHECK (✓) ONE):

(a) ☐ DENTISTRY
(b) ☐ MEDICINE
(c) ☐ OPTOMETRY
(d) ☐ OSTEOPATHY
(e) ☐ PHARMACY
(f) ☐ PODIATRY
(g) ☐ PUBLIC HEALTH
(h) ☐ VETERINARY MEDICINE
(i) ☐ COMBINATION SCHOOL
(Specify professions in item 5 below)

⑤ (ANSWER ONLY IF RESPONDENT CHECKED BOX (i) IN ITEM 4)

PLEASE ENTER, FOR EACH HEALTH PROFESSION, THE NUMBER OF STUDENTS AND THEIR FULL-TIME EQUIVALENTS:

NAME OF HEALTH PROFESSION	NUMBER OF STUDENTS	FTE STUDENTS
NAME OF HEALTH PROFESSION	NUMBER OF STUDENTS	FTE STUDENTS

6. INDIVIDUAL WHO MAY BE CONTACTED REGARDING PREPARATION OF THIS QUESTIONNAIRE:
NAME: ____ TITLE: ____ ( ) TELEPHONE NO. ____ EXT. ____

7. TYPE OF CONTROL OF RESPONDENT (CHECK (✓) ONE):
(a) ☐ PRIVATE NONPROFIT (b) ☐ PUBLIC (State) (c) ☐ PUBLIC (County) (d) ☐ PUBLIC (City) (e) ☐ OTHER (Specify) ____

⑧ LOCALE OF ADDRESS IN ITEM 1: (a) ☐ INNER CITY (b) ☐ OUTER CITY (c) ☐ SUBURBAN (d) ☐ RURAL

9. UPON COMPLETION, THIS FORM SHOULD BE FORWARDED THROUGH THE PARENT INSTITUTION (IF APPROPRIATE) BY JUL 1 6 1973 TO:

HEALTH PROFESSIONS FACILITIES SURVEY
RRC INTERNATIONAL, INC.
1125 PEOPLES AVENUE
TROY, NEW YORK 12181

IMPAC CODE ____________

OWNED FACILITIES CURRENTLY ALLOCATED TO RESPONDENT:

(EXCLUDE SPACE IN FREESTANDING HOSPITALS AND CLINICS)

☐ **CHECK (✓) THE BOX TO THE LEFT IF THE RESPONDENT HAS NO ALLOCATED OWNED FACILITIES TO REPORT, AND PROCEED TO THE NEXT PAGE.**

	GSF	NSF
① TOTAL GROSS AND NET SQUARE FEET OF OWNED FACILITIES ALLOCATED TO RESPONDENT		

	CONSTR'D.	REMOD'LD
② NUMBER OF THE NET SQUARE FEET (NSF) REPORTED IN ITEM 1 THAT WERE CONSTRUCTED OR REMODELED WITH HPEA ASSISTANCE		

ALLOCATED FACILITIES CURRENTLY AVAILABLE

		TOTAL OF COLUMNS B–K	CLASSROOM–TYPE INSTRUCTIONAL SPACE	CLASS LABORATORIES	RESEARCH AND RESEARCH TRAINING SPACE	LIBRARY SPACE	AUDITORIUMS	FACULTY OFFICES	ADMINISTRATIVE OFFICES AND AREAS	ANIMAL FACILITIES	ON-SITE PATIENT CARE FACILITIES	OTHER SPACE
		A	B	C	D	E	F	G	H	I	J	K
③	NASF ALLOCATED TO RESPONDENT											
4.	NASF OF LINE 3 WHICH ARE SATISFACTORY FOR PROGRAM PURPOSE											
5.	CHECK (✓) EACH TYPE OF SPACE CONSTRUCTED OR REMODELED WITH HPEA ASSISTANCE		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
⑥	NUMBER OF STUDENT STATIONS ON LINE 3	▨						▨	▨	▨	▨	▨
⑦	NUMBER OF ROOMS ON LINE 3	▨				▨			▨	▨	▨	▨
8.	NASF OF LINE 3 PREDOMINANTLY USED FOR GRADUATE INSTRUCTION											

SAMPLE

FACILITIES CURRENTLY NEEDED

		A	B	C	D	E	F	G	H	I	J	K
⑨	ADDITIONAL NASF CURRENTLY NEEDED TO ACCOMMODATE PRESENT ENROLLMENT											
⑩	FOR EACH TYPE OF SPACE NEEDED, USE LETTER CODE TO INDICATE THE REASON	▨										
11.	WHAT PORTION (in NASF) of EACH ENTRY IN ITEM 9 IS ATTRIBUTABLE TO OVERCROWDING?											

12a. NASF NOT SATISFACTORY FOR PROGRAM PURPOSE (=ITEM 3 COLUMN A MINUS ITEM 4 COLUMN A) .... ☐

12b. IF ITEM 12a. IS NOT ZERO, HOW MANY NASF OF THIS UNSATISFACTORY SPACE COULD BE MADE SATISFACTORY THROUGH REMODELING? .... ☐

ANSWER ITEMS 13-17 ONLY IF ON-SITE PATIENT CARE FACILITIES WERE REPORTED IN ITEM 3, COLUMN J ABOVE

ON-SITE INPATIENT FACILITIES

		NUMBER	AVERAGE DAILY PATIENT LOAD (ADPL)
⑬	BEDS USED FOR RESPONDENT'S STUDENT INSTRUCTION	a	b

		UNDERGRAD	GRADUATE
14.	AVERAGE NUMBER OF RESPONDENT'S STUDENTS USING THESE FACILITIES AT ANY ONE TIME	a	b

ON-SITE AMBULATORY FACILITIES

		NUMBER OF ROOMS	TOTAL PATIENT STATIONS
⑮	EXAMINING AND TREATMENT ROOMS USED BY RESPONDENT	a	b

16. NUMBER OF OUTPATIENT VISITS PER YEAR APPLIED TO RESPONDENT'S STUDENT INSTRUCTION .... ☐

		UNDERGRAD	GRADUATE
17.	AVERAGE NUMBER OF RESPONDENT'S STUDENTS USING THESE FACILITIES AT ANY ONE TIME	a	b

IMPAC CODE ____________________

RENTED, LEASED OR OTHER FACILITIES CURRENTLY ALLOCATED TO RESPONDENT:

(EXCLUDE SPACE IN FREESTANDING HOSPITALS AND CLINICS)

☐ **CHECK (✓) THE BOX TO THE LEFT IF THE RESPONDENT HAS NO RENTED, LEASED OR OTHER ALLOCATED FACILITIES TO REPORT, AND PROCEED TO THE NEXT PAGE.**

① TOTAL NET SQUARE FEET OF RENTED, LEASED OR OTHER FACILITIES ALLOCATED TO RESPONDENT .... ☐

SAMPLE

ALLOCATED FACILITIES CURRENTLY AVAILABLE

		TOTAL OF COLUMNS B–K	CLASSROOM–TYPE INSTRUCTIONAL SPACE	CLASS LABORATORIES	RESEARCH AND RESEARCH TRAINING SPACE	LIBRARY SPACE	AUDITORIUMS	FACULTY OFFICES	ADMINISTRATIVE OFFICES AND AREAS	ANIMAL FACILITIES	ON-SITE PATIENT CARE FACILITIES	OTHER SPACE
		A	B	C	D	E	F	G	H	I	J	K
②	NASF ALLOCATED TO RESPONDENT											
3.	NASF OF LINE 2 WHICH ARE SATISFACTORY FOR PROGRAM PURPOSE											
④	NUMBER OF STUDENT STATIONS ON LINE 2	▨						▨	▨	▨	▨	▨
⑤	NUMBER OF ROOMS ON LINE 2	▨				▨			▨	▨	▨	▨
6.	NASF OF LINE 2 PREDOMINANTLY USED FOR GRADUATE INSTRUCTION											

FACILITIES CURRENTLY NEEDED

⑦	ADDITIONAL NASF CURRENTLY NEEDED TO ACCOMMODATE PRESENT ENROLLMENT											
⑧	FOR EACH TYPE OF SPACE NEEDED, USE LETTER CODE TO INDICATE THE REASON	▨										
9.	WHAT PORTION (IN NASF) OF EACH ENTRY IN ITEM 7 IS ATTRIBUTABLE TO OVERCROWDING?											

10a. NASF NOT SATISFACTORY FOR PROGRAM PURPOSE (= ITEM 2 COLUMN A MINUS ITEM 3 COLUMN A) .... ☐

10b. IF ITEM 10a. IS NOT ZERO, HOW MANY NASF OF THIS UNSATISFACTORY SPACE COULD BE MADE SATISFACTORY THROUGH REMODELING? .... ☐

ANSWER ITEMS 11-15 ONLY IF ON-SITE PATIENT CARE FACILITIES WERE REPORTED IN ITEM 2 COLUMN J ABOVE

ON-SITE INPATIENT FACILITIES

	NUMBER	AVERAGE DAILY PATIENT LOAD (ADPL)
⑪ BEDS USED FOR RESPONDENT'S STUDENT INSTRUCTION	a	b

	UNDERGRAD	GRADUATE
12. AVERAGE NUMBER OF RESPONDENT'S STUDENTS USING THESE FACILITIES AT ANY ONE TIME	a	b

ON-SITE AMBULATORY FACILITIES

	NUMBER OF ROOMS	TOTAL PATIENT STATIONS
⑬ EXAMINING AND TREATMENT ROOMS USED BY RESPONDENT	a	b

14. NUMBER OF OUTPATIENT VISITS PER YEAR APPLIED TO RESPONDENT'S STUDENT INSTRUCTION .... ☐

	UNDERGRAD	GRADUATE
15. AVERAGE NUMBER OF RESPONDENT'S STUDENTS USING THESE FACILITIES AT ANY ONE TIME	a	b

IMPAC CODE ____________

JOINT-USE SPACE
(EXCLUDE HOSPITALS AND CLINICS)

SAMPLE

A. CURRENT USAGE

REPORT JOINT-USE SPACE CURRENTLY USED, OR PROVIDED TO OTHERS, BY RESPONDENT

		SPACE NOT ALLOCATED TO RESPONDENT BUT USED BY RESPONDENT'S STUDENTS		SPACE ALLOCATED TO RESPONDENT, BUT SHARED WITH, OR USED BY STUDENTS OF ANOTHER DISCIPLINE	
		CLASSROOM–TYPE INSTRUCTIONAL SPACE	CLASS LABORATORIES	CLASSROOM–TYPE INSTRUCTIONAL SPACE	CLASS LABORATORIES
		A	B	C	D
①	NUMBER OF ROOMS				
2.	TOTAL NUMBER OF STUDENT STATIONS ON LINE A. 1				
③	NUMBER OF ROOM-HOURS USED DURING THE ACADEMIC YEAR				

Ⓑ USAGE UPON COMPLETION OF ONGOING CONSTRUCTION AND REMODELING

ANSWER ITEMS B1-B3 ONLY IF JOINT-USE SPACE OR ITS USAGE WILL CHANGE SIGNIFICANTLY FOLLOWING THE COMPLETION OF ONGOING AND FULLY AUTHORIZED CONSTRUCTION AND REMODELING.

		A	B	C	D
1	NUMBER OF ROOMS TO BE USED DURING THE ACADEMIC YEAR				
2	TOTAL NUMBER OF STUDENT STATIONS ON LINE B1				
3	ESTIMATED NUMBER OF ROOM-HOURS TO BE USED DURING THE ACADEMIC YEAR				

IMPAC CODE ____________

ONGOING AND FULLY AUTHORIZED CONSTRUCTION AND REMODELING TO BE ALLOCATED TO RESPONDENT

(EXCLUDE SPACE IN FREESTANDING HOSPITALS AND CLINICS)

☐ **IF RESPONDENT HAS NO CONSTRUCTION OR REMODELING TO REPORT, CHECK (✓) THE BOX TO THE LEFT AND PROCEED TO THE NEXT PAGE**

Ⓐ OVERVIEW

	a. COST (Thousands)	b. GSF	c. NSF	d. NSF OF HPEA ASSIST.
1. ALL SPACE BEING (OR TO BE) REMODELED	$	▨		
2. OWNED NEW CONSTRUCTION	$			

Ⓑ IF CONSTRUCTION AND REMODELING WILL ADD ON-SITE PATIENT CARE FACILITIES, INDICATE:

1. NUMBER OF ADDITIONAL BEDS TO BECOME AVAILABLE FOR RESPONDENT'S STUDENT USE ____
2. NUMBER OF PATIENT STATIONS IN ADDITIONAL EXAMINING AND TREATMENT ROOMS TO BE USED BY RESPONDENT ____

Ⓒ APPORTION GSF OF OWNED NEW CONSTRUCTION (ITEM A2, Column b) AS TO PURPOSE:

1. EXPANDING ENROLLMENT ____
2. RELIEF OF OVERCROWDING ____
3. REPLACING OBSOLETE SPACE ____
4. OTHER PURPOSES ____

D. CONSTRUCTION AND REMODELING COSTS AND SOURCES OF FUNDS

1. SUM OF COSTS REPORTED IN ITEMS A1 AND A2 $ ____

② HOW MUCH OF THE TOTAL REPORTED IN ITEM D1 IS FROM:

a. INSTITUTION'S PRIVATE FUNDS	$	d. FOUNDATIONS AND PHILANTHROPIES	$	g. CHMTA INTEREST SUBSIDIES	$
b. INSTITUTION'S BORROWING	$	e. HPEA CONSTRUCTION GRANTS	$	h. OTHER FEDERAL SOURCES	$
c. STATE OR LOCAL FUNDS	$	f. CHMTA LOAN GUARANTEES	$	i. OTHER	$

SAMPLE

E. ONGOING AND FULLY AUTHORIZED CONSTRUCTION AND REMODELING:

	TOTAL OF COLUMNS B–K	CLASSROOM TYPE INSTRUCTIONAL SPACE	CLASS LABORATORIES	RESEARCH & RESEARCH TRAINING SPACE	LIBRARY SPACE	AUDITORIUMS	FACULTY OFFICES	ADMINISTRATIVE OFFICES AND AREAS	ANIMAL FACILITIES	ON-SITE PATIENT CARE FACILITIES	OTHER SPACE
	A	B	C	D	E	F	G	H	I	J	K
① NASF OF OWNED SPACE BEING (OR TO BE) REMODELED											
2. NASF OF OWNED NEW CONSTRUCTION											
3. CHECK (✓) EACH TYPE OF SPACE CONSTRUCTED OR REMODELED WITH HPEA ASSISTANCE		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Ⓕ REVISED INVENTORY AFTER ONGOING (OR FULLY AUTHORIZED) CONSTRUCTION AND REMODELING ARE COMPLETED:

	A	B	C	D	E	F	G	H	I	J	K
1. NASF OF OWNED SPACE											
2. NASF OF RENTED, LEASED OR OTHER SPACE											
3. NUMBER OF STUDENT STATIONS REPRESENTED ON LINES F1 and F2	▨						▨	▨	▨	▨	▨
4. NUMBER OF ROOMS REPRESENTED ON LINES F1 and F2.	▨				▨			▨	▨	▨	▨

Ⓖ REMAINING NEEDS AFTER CONSTRUCTION AND REMODELING HAVE BEEN COMPLETED:

	A	B	C	D	E	F	G	H	I	J	K
1. NASF STILL REQUIRED											
2. FOR EACH TYPE OF SPACE NEEDED, ENTER THE APPROPRIATE LETTER (SEE INSTRUC.)	▨										

14. INDICATE THE CALENDAR YEAR ALL ONGOING AND FULLY AUTHORIZED CONSTRUCTION AND REMODELING ARE EXPECTED TO BE COMPLETED: ____________

PAGE 5A

MAJOR HOSPITALS AND CLINICS USED BY RESPONDENT

IMPAC CODE ____________

SECTION A

	NAME OF HOSPITAL OR CLINIC	ADDRESS		CONTROL (CHECK (✓) ONE)
1.				☐ OWNED ☐ MAJOR AFFILIATE
2.	TYPE OF HOSPITAL (Check (✓) All Applicable Boxes)	☐ GENERAL	☐ SPECIAL (Specify) (____________)	☐ VA or PHS	☐ OTHER (Specify) (____________)
③	LOCALE (Check (✓) One)	☐ INNER CITY	☐ OUTER CITY	☐ SUBURBAN	☐ RURAL

④ TOTAL GSF (Gross Square Feet) ☐ ⑤ GSF CONSTRUCTED WITH HPEA ASSISTANCE ☐ ⑥ NSF (Net Square Feet) REMODELED WITH HPEA ASSISTANCE ☐

INPATIENT FACILITIES:

	NUMBER	AVERAGE DAILY PATIENT LOAD (ADPL)
⑦ BEDS USED FOR RESPONDENT'S STUDENT INSTRUCTION	a	b

	UNDERGRAD	GRADUATE
⑧ AVERAGE NUMBER OF RESPONDENT'S STUDENTS USING THESE FACILITIES AT ANY ONE TIME	a	b

AMBULATORY FACILITIES:

	NUMBER OF ROOMS	TOTAL PATIENT STATIONS
⑨ EXAMINING AND TREATMENT ROOMS USED BY RESPONDENT	a	b

10. NUMBER OF OUTPATIENT VISITS PER YEAR APPLIED TO RESPONDENT'S STUDENT INSTRUCTION ☐

	UNDERGRAD	GRADUATE
⑪ AVERAGE NUMBER OF RESPONDENT'S STUDENTS USING THESE FACILITIES AT ANY ONE TIME	a	b

NON PATIENT-CARE INSTRUCTIONAL FACILITIES AVAILABLE FOR RESPONDENT'S STUDENTS.

		TOTAL OF COLUMNS B-J	CLASSROOM–TYPE INSTRUCTIONAL SPACE	CLASS LABORATORIES	RESEARCH AND RESEARCH TRAINING SPACE	LIBRARY SPACE	AUDITORIUMS	FACULTY OFFICES	ADMIN. OFF. AND AREAS ASSIGNED TO RESPONDENT	ANIMAL FACILITIES	OTHER SPACE
		A	B	C	D	E	F	G	H	I	J
12.	NASF AVAILABLE FOR USE BY RESPONDENT										
13.	CHECK (✓) EACH TYPE OF SPACE AT LEAST PARTIALLY CONSTRUCTED OR OR REMODELED WITH HPEA ASSISTANCE		☐	☐	☐	☐	☐	☐	☐	☐	☐
⑭	NUMBER OF ROOMS ON LINE 12	▨				▨			▨	▨	▨

FACILITIES CURRENTLY NEEDED

⑮	ADDITIONAL NASF CURRENTLY NEEDED TO ACCOMMODATE RESPOND'S STUDENTS										
⑯	FOR EACH TYPE OF SPACE NEEDED, USE LETTER CODE TO INDICATE THE REASON										
17	WHAT PORTION (in NASF) of each entry in ITEM 15 is ATTRIBUTABLE TO OVERCROWDING?										

	CLASSROOM–TYPE INSTRUCT. SPACE	CLASS LABORATORIES
18. AVERAGE NUMBER OF HOURS PER (ACADEMIC) YEAR THAT A TYPICAL ROOM IS USED FOR ACADEMIC PURPOSES		

	SATISFACTORY FOR PROGRAM PURPOSE	IN NEED OF REMODELING	IN NEED OF REPLACEMENT
⑲ APPORTION NASF OF LINE 12, COLUMN A BY CONDITION	a.	b	c

SAMPLE

CONTINUED ON BACK OF PAGE

SECTION B

ONGOING AND FULLY AUTHORIZED CONSTRUCTION AND REMODELING

☐ IF RESPONDENT HAS NO CONSTRUCTION OR REMODELING TO REPORT, CHECK (✓) THE BOX TO THE LEFT AND PROCEED TO SEC. C.

	1	2	3	4
① **OVERVIEW**	COST (Thousands)	GSF	NSF	NSF of HPEA ASSIST
a. OWNED SPACE BEING (OR TO BE) REMODELED	$	▨		
b. OWNED NEW CONSTRUCTION	$			

② **PATIENT CARE FACILITIES BEING ADDED**

a. NUMBER OF ADDITIONAL BEDS TO BECOME AVAILABLE FOR RESPONDENT'S STUDENT USE	
b. NUMBER OF PATIENT STATIONS IN ADDITIONAL EXAMINING AND TREATMENT ROOMS TO BE USED BY RESPONDENT	

③ **APPORTION GSF OF OWNED NEW CONSTRUCTION (ITEM 1b, Column 2) AS TO PURPOSE**

a. EXPANDING ENROLLMENT		b. RELIEF OF OVERCROWDING		c. REPLACING OBSOLETE SPACE		d. OTHER PURPOSES	

4. **CONSTRUCTION AND REMODELING COSTS AND SOURCES OF FUNDS**

a. SUM OF COSTS REPORTED IN ITEMS 1a and 1b ABOVE $

ⓑ HOW MUCH OF THE TOTAL REPORTED IN ITEM 4a. IS FROM

(1) INSTITUTION'S PRIVATE FUNDS	$	(4) FOUNDATIONS AND PHILANTHROPIES	$	(7) CHMTA INTEREST SUBSIDIES	$
(2) INSTITUTION'S BORROWING	$	(5) HPEA CONSTRUCTION GRANTS	$	(8) OTHER FEDERAL SOURCES	$
(3) STATE OR LOCAL FUNDS	$	(6) CHMTA LOAN GUARANTEES	$	(9) OTHER	$

SAMPLE

HPEA AID; REVISED INVENTORY; AND POST-CONSTRUCTION NEEDS:

		TOTAL OF COLUMNS B–J	CLASSROOM TYPE INSTRUCTIONAL SPACE	CLASS LABORATORIES	RESEARCH & RESEARCH TRAINING SPACE	LIBRARY SPACE	AUDITORIUMS	FACULTY OFFICES	ADMINISTRATIVE OFFICES AND AREAS	ANIMAL FACILITIES	OTHER SPACE
		A	B	C	D	E	F	G	H	I	J
5	CHECK (✓) EACH TYPE OF SPACE CONSTRUCTED OR REMODELED WITH HPEA ASSISTANCE		☐	☐	☐	☐	☐	☐	☐	☐	☐
⑥	REVISED INVENTORY OF NASF AVAILABLE FOR RESPONDENT'S USE AFTER CONSTRUCTION AND REMODELING ARE COMPLETE										
⑦	NASF STILL NEEDED AFTER COMPLETION OF REPORTED CONSTRUCTION AND REMODELING										
⑧	FOR EACH TYPE OF SPACE NEEDED, USE LETTER CODE TO INDICATE THE REASON	▨									

9. INDICATE THE CALENDAR YEAR ALL ONGOING AND FULLY AUTHORIZED CONSTRUCTION AND REMODELING ARE EXPECTED TO BE COMPLETED ________

SECTION C

FUTURE CONSTRUCTION AND MAJOR REMODELING PLANNED FOR COMPLETION BY 1983

(OVER AND ABOVE ONGOING CONSTRUCTION AND REMODELING REPORTED IN SECTION B)

① OVERVIEW

a. NSF TO BE REMODELED	
b. GSF OF NEW CONSTRUCTION	
c. TOTAL NASF ANTICIPATED TO BE AVAILABLE FOR RESPONDENT'S USE BY 1983	

② APPORTION "GSF OF NEW CONSTRUCTION" (ITEM C.1.b.) AS TO ITS PURPOSE

a. GSF FOR EXPANDING ENROLLMENT	
b. GSF FOR RELIEF OF OVERCROWDING	
c. GSF TO REPLACE OBSOLETE FACILITIES	
d. GSF FOR OTHER PURPOSES	

IMPAC CODE ____________

OTHER HOSPITALS AND CLINICS USED BY RESPONDENT

☐ CHECK (✓) THE BOX TO THE LEFT AND PROCEED TO THE NEXT PAGE IF THERE ARE NO OTHER HOSPITALS AND CLINICS USED BY RESPONDENT.

COMPLETE ONE ROW OF DATA IN THE TABLE BELOW FOR EACH HOSPITAL OR CLINIC USED BY THE RESPONDENT, BUT NOT REPORTED ON PAGE(s) 5A/5B

SAMPLE

		CHECK (✓) EACH TYPE OF SPACE THAT IS AVAILABLE FOR USE BY RESPONDENT								INPATIENT FACILITIES				AMBULATORY FACILITIES					
		CLASSROOM–TYPE INSTRUCTIONAL SPACE	CLASS LABORATORIES	RESEARCH AND RESEARCH TRAINING SPACE	LIBRARY SPACE	AUDITORIUMS	FACULTY OFFICES	ADMIN. OFFICES AND AREAS ASSIGNED TO RESPONDENT	ANIMAL FACILITIES	TOTAL NUMBER OF BEDS USED BY RESPONDENT FOR STUDENT INSTRUCTION	YEARLY NUMBER OF RESPONDENT'S STUDENTS USING BEDS IN COLUMN I		AVERAGE DAILY PATIENT LOAD (ADPL) IN BEDS IN COLUMN I	TOTAL NUMBER OF EXAMINING AND TREATMENT ROOMS USED BY RESPONDENT FOR STUDENT INSTRUCTION		TOTAL NUMBER OF RESPONDENT'S STUDENTS USING EXAMINING AND TREATMENT ROOMS THROUGHOUT THE YEAR		NUMBER OF OUTPATIENT VISITS PER YEAR APPLIED TO RESPONDENT'S STUDENT INSTRUCTION	POTENTIAL AS A MAJOR AFFILIATE (ENTER LETTER CODE AS PER INSTRUCTIONS)
											UNDER-GRADUATE	GRADUATE		NUMBER OF ROOMS	NUMBER OF PATIENT STATIONS	UNDER-GRADUATE	GRADUATE		
		A	B	C	D	E	F	G	H	I	Ⓙ	Ⓚ	L	M	Ⓝ	Ⓞ	Ⓟ	Q	Ⓡ
1.	NAME:	☐	☐	☐	☐	☐	☐	☐	☐										
2.	NAME:	☐	☐	☐	☐	☐	☐	☐	☐										
3.	NAME:	☐	☐	☐	☐	☐	☐	☐	☐										
4.	NAME:	☐	☐	☐	☐	☐	☐	☐	☐										
5.	NAME:	☐	☐	☐	☐	☐	☐	☐	☐										
6.	NAME:	☐	☐	☐	☐	☐	☐	☐	☐										

A-61

PAGE 5C

PAGE 5D

IMPAC CODE ____________

OTHER FACILITIES AVAILABLE FOR STUDENTS' PRACTICAL EXPERIENCE

(SEE INSTRUCTIONS)

	FACILITY TYPE	NUMBER OF SUCH FACILITIES	NUMBER OF RESPONDENT'S STUDENTS USING THESE FACILITIES PER YEAR	TYPE OF ACTIVITY	NUMBER OF ACTIVITY UNITS PER YR.
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

SAMPLE

IMPAC CODE ________________

Ⓐ AUDIOVISUAL (A/V) TEACHING SUPPORT FACILITIES AVAILABLE TO RESPONDENT:

①	NASF OF AUDIOVISUAL AND TV PRODUCTION FACILITIES			
2.	NUMBER OF ROOMS WITH BUILT-IN TV CAPABILITIES	CLASS ROOMS	CLASS LABORA-TORIES	AUDI-TOR-IUMS
3.	NUMBER OF COMPUTER TERMINALS FOR RESPONDENT'S COMPUTER – AIDED INSTRUCTION			
4.	TOTAL NUMBER OF STUDY CARRELS AVAILABLE FOR A/V USE	LIBRARY	CLASS LABORA TORIES	OTHER
5.	NASF IN ALL SELF-INSTRUCTIONAL LABORATORIES OR INDIVIDUAL STUDY AREAS EQUIPPED FOR AUDIOVISUAL USE			
⑥	DOES RESPONDENT HAVE AN "OFFICE OF AUDIOVISUAL SERVICES" (OR EQUIVALENT)?	☐ YES	☐ NO	

Ⓑ DISTRIBUTE CLASSROOM–TYPE SPACE AND CLASS LABORATORY SPACE BETWEEN BASIC BIOLOGICAL SCIENCES INSTRUCTION AND CLINICAL SCIENCES INSTRUCTION:

SAMPLE

		CLASSROOM–TYPE INSTRUCTIONAL SPACE	CLASS LABORATORY SPACE
1.	PRIMARILY BASIC BIOLOGICAL SCIENCES INST.	%	%
2.	PRIMARILY CLINICAL SCIENCES INSTRUCTION	%	%
3.	OTHER	%	%
4.	TOTAL	100 %	100 %

Ⓒ APPORTION ALL ANIMAL FACILITIES USED BY RESPONDENT AS SUPPORT FOR INSTRUCTION AND RESEARCH..........................

% FOR INSTR.	% FOR RESEARCH	OTHER %	TOTAL
%	%	%	100 %

Ⓓ SELECTED ROOM-USE DATA

(FOR THE ROOM TYPES REQUESTED, REPORT RESPONDENT'S USAGE OF ALL ROOMS REPORTED ON PAGES 2A and 2B)

		CLASSROOM TYPE INSTRUCTIONAL SPACE AND AUDITORIUMS			CLASS LABORATORIES (EXCLUDE SPECIAL PURPOSE CLASS LABS)			SPECIAL PURPOSE CLASS LABORATORIES		
		NUMBER OF ROOMS	ROOM USAGE	MAJOR USAGE PROBLEMS	NUMBER OF ROOMS	ROOM USAGE	MAJOR USAGE PROBLEMS	NUMBER OF ROOMS	ROOM USAGE	MAJOR USAGE PROBLEMS
		A	B	C	D	E	F	G	H	I
1	1 16 STATIONS									
2	17 32 STATIONS									
3.	33 64 STATIONS									
4	65 128 STATIONS									
5	MORE THAN 128 STATIONS									
6	TOTAL OF LINES 1 5			▨			▨			▨

Ⓔ CURRENT ENROLLMENT VERSUS CURRENT LIBRARY CAPACITY (SEE INSTRUCTIONS).. ☐

IMPAC CODE ______________

CURRENT INSTRUCTION OF RESPONDENT'S STUDENTS

Ⓐ ESTIMATE THE AVERAGE HOURS PER YEAR CURRENTLY SPENT IN EACH TYPE OF SPACE, BY A TYPICAL FULL-TIME STUDENT OF EACH OF THE FOLLOWING TYPES

		HOURS SPENT IN ALLOCATED AND JOINT USE FACILITIES (EXCLUDING FREESTANDING HOSPITALS AND CLINICS)				HOURS SPENT IN OWNED AND MAJOR AFFILIATED HOSPITALS AND CLINICS (ONLY)			
		CLASSROOM TYPE INSTRUCTIONAL SPACE	CLASS LABORATORIES	EXAMINING AND TREATMENT ROOMS (AMBULATORY CARE)	INPATIENT AREAS	CLASSROOM–TYPE INSTRUCTIONAL SPACE	CLASS LABORATORIES	EXAMINING AND TREATMENT ROOMS (AMBULATORY CARE)	INPATIENT AREAS
		A	B	C	D	E	F	G	H
1.	FIRST YEAR UNDERGRADUATE								
2.	SECOND YEAR UNDERGRADUATE								
3.	THIRD YEAR UNDERGRADUATE								
4.	FOURTH YEAR UNDERGRADUATE								
5.	FIFTH YEAR UNDERGRADUATE								
6.	SIXTH YEAR UNDERGRADUATE								
7.	GRADUATE STUDENT ENROLLED FOR DEGREE								

SAMPLE

B

① NUMBER OF WEEKS IN THE ACADEMIC YEAR ______________ WEEKS

② NUMBER OF HOURS IN THE ACADEMIC WEEK ______________ HOURS

3. NUMBER OF DAYS IN THE ACADEMIC WEEK ______________ DAYS

4. NUMBER OF ADMISSION PERIODS PER CALENDAR YEAR ______________ PERIODS

IMPAC CODE ____________

INSTRUCTION OF RESPONDENT'S STUDENTS:
FOLLOWING MAJOR CURRICULUM CHANGES OR INNOVATIONS

☐ IF NO MAJOR CURRICULUM CHANGES OR INNOVATIONS ARE ANTICIPATED OR UNDERWAY, CHECK (✓) BOX TO THE LEFT AND CONTINUE TO THE NEXT PAGE.

Ⓐ ESTIMATE THE AVERAGE HOURS PER YEAR THAT WILL BE SPENT IN EACH TYPE OF SPACE. BY A TYPICAL FULL-TIME STUDENT OF EACH OF THE FOLLOWING TYPES:

		HOURS SPENT IN ALLOCATED AND JOINT USE FACILITIES (EXCLUDING FREESTANDING HOSPITALS AND CLINICS)				HOURS SPENT IN OWNED AND MAJOR AFFILIATED HOSPITALS AND CLINICS (ONLY)			
		CLASSROOM–TYPE INSTRUCTIONAL SPACE	CLASS LABORATORIES	EXAMINING AND TREATMENT ROOMS (AMBULATORY CARE)	INPATIENT AREAS	CLASSROOM–TYPE INSTRUCTIONAL SPACE	CLASS LABORATORIES	EXAMINING AND TREATMENT ROOMS (AMBULATORY CARE)	INPATIENT AREAS
		A	B	C	D	E	F	G	H
1.	FIRST YEAR UNDERGRADUATE								
2.	SECOND YEAR UNDERGRADUATE								
3.	THIRD YEAR UNDERGRADUATE								
4.	FOURTH YEAR UNDERGRADUATE								
5.	FIFTH YEAR UNDERGRADUATE								
6.	SIXTH YEAR UNDERGRADUATE								
7.	GRADUATE STUDENT ENROLLED FOR DEGREE								

SAMPLE

B.

① NUMBER OF WEEKS IN THE ACADEMIC YEAR ____________ WEEKS

② NUMBER OF HOURS IN THE ACADEMIC WEEK ____________ HOURS

3. NUMBER OF DAYS IN THE ACADEMIC WEEK ____________ DAYS

4. NUMBER OF ADMISSION PERIODS PER CALENDAR YEAR ____________ PERIODS

C. PLEASE DESCRIBE THE NATURE AND TARGET DATES OF THE CURRICULUM CHANGES OR INNOVATIONS AND THEIR ANTICIPATED EFFECTS ON ENROLLMENT, LENGTH OF THE EDUCATIONAL PROGRAM. FACULTY, FACILITY REQUIREMENTS, ETC.

GROWTH POTENTIAL

IMPAC CODE ____________

THIS PAGE PROVIDES THE RESPONDENT WITH AN OPPORTUNITY TO IDENTIFY THE TYPES AND AMOUNTS OF RESOURCES NEEDED TO SATISFACTORILY ACCOMMODATE HIS STUDENTS.

				FTE'S		THOUSANDS OF DOLLARS		THOUSANDS OF NASF							NUMBERS		
				FACULTY	SUPPORT STAFF	OPERATING FUNDS (OVER AND ABOVE THOSE IMPLIED BY COLUMNS A & B)	EQUIPMENT	CLASSROOM-TYPE INSTRUCTIONAL SPACE	CLASS LABORATORIES	RESEARCH AND RESEARCH TRAINING SPACE	LIBRARY SPACE	FACULTY OFFICES AND/OR ADMINISTRATIVE AREAS	AUDITORIUMS	ANIMAL FACILITIES	HOSPITAL BEDS	EXAMINING AND TREATMENT ROOMS (AMBULATORY)	OTHER RESOURCES (SPECIFY IN ITEM 5 BELOW)
				A	B	C	D	E	F	G	H	I	J	K	L	M	N
1.	CHECK (✓) THOSE RESOURCES MOST NEEDED AT PRESENT																
2.	ESTIMATE THE MINIMUM RESOURCES REQUIRED TO SATISFY THE NEEDS CHECKED ON LINE 1																
③	ESTIMATE THE ADDITIONAL RESOURCES NEEDED TO INCREASE ENROLLMENT REPORTED ON PAGE 10, COLUMN C, LINES 1 AND 8, BY 10% AND 20% RESPECTIVELY	a.	10% INCREASE														
		b.	20% INCREASE														
④	IF RESPONDENT CAN INCREASE ENROLLMENT BY OTHER THAN 10% OR 20%, INDICATE THE % OF INCREASE POSSIBLE (____%) OR NUMBER OF FTE'S (____) AND ESTIMATE THE RESOURCES REQUIRED																

SAMPLE

5. IF COLUMN "N" (OTHER RESOURCES) HAS BEEN FILLED IN, PLEASE INDICATE THEIR NATURE:

____

____

⑥ PLEASE DESCRIBE ANY NON-QUANTIFIABLE FACTORS THAT WOULD PREVENT THE STUDENT ENROLLMENT INCREASES SPECIFIED ON LINES 3a, 3b and 4 ABOVE.

____

____

____

____

IMPAC CODE ____________

A. WHAT UNDERGRADUATE ENROLLMENT INCREASES WOULD BE POSSIBLE UNDER THE CAPITATION, CONSTRUCTION AND SPECIAL PROJECTS PROVISIONS OF THE COMPREHENSIVE HEALTH MANPOWER TRAINING ACT OF 1971 (P.L. 92-157) ASSUMING:

1. FEDERAL SUPPORT AT THE FULL AUTHORIZATION LEVEL: ____________ STUDENTS
2. FEDERAL SUPPORT AT THE CURRENT (FISCAL YEAR 1973) FUNDING LEVEL: ____________ STUDENTS
3. NO FEDERAL SUPPORT UNDER THE ACT: ____________ STUDENTS

B.

FUTURE CONSTRUCTION AND MAJOR REMODELING PLANNED FOR COMPLETION BY 1983

(OVER AND ABOVE ONGOING CONSTRUCTION AND REMODELING REPORTED ON PAGE 4)

(EXCLUDE FREESTANDING HOSPITALS AND CLINICS)

CHECK (✓) BOX a. or b., AND ENTER THE YEAR:

SAMPLE

a. ☐ THE ESTIMATES ON THIS PAGE ARE BASED ON A DEVELOPMENT OR MASTER PLAN EXTENDING THROUGH CALENDAR YEAR ____________

b. ☐ THE ESTIMATES ON THIS PAGE ARE BASED ON A DEVELOPMENT OR MASTER PLAN WHICH IS IN PROCESS OF BEING FORMULATED EXTENDING THROUGH CALENDAR YEAR ____________.

1. NASF OF OWNED NEW CONSTRUCTION TO BE ALLOCATED TO RESPONDENT ....
2. NASF OF MAJOR REMODELING IN SPACE ALLOCATED TO RESPONDENT ....
③ APPORTION "NEW CONSTRUCTION" (ITEM 1) AS TO ITS PURPOSE:
   a. NASF FOR EXPANDING ENROLLMENT ....
   b. NASF FOR RELIEF OF OVERCROWDING ....
   c. NASF TO REPLACE OBSOLETE FACILITIES ....
   d. NASF FOR OTHER PURPOSES ....
4. ESTIMATED TOTAL SPACE TO BE ALLOCATED TO RESPONDENT IN 1983 ....
5. ANTICIPATED LOCATION OF RESPONDENT IN 1983 (CHECK (✓) ONE):
   a. ☐ REMAIN AT CURRENT LOCATION.
   b. ☐ RELOCATE TO INNER CITY. YEAR OF MOVE ____________.
   c. ☐ RELOCATE TO OUTER CITY. YEAR OF MOVE ____________.
   d. ☐ RELOCATE TO SUBURB. YEAR OF MOVE ____________.
   e. ☐ RELOCATE TO RURAL AREA. YEAR OF MOVE ____________.
   f. ☐ OTHER (SPECIFY) ____________.

IMPAC CODE ____________

STUDENTS, FACULTY AND SUPPORT STAFF USING RESPONDENT'S FACILITIES: CURRENT TOTALS AND FUTURE PROJECTIONS

SAMPLE

RESPONDENT'S STUDENTS

		CURRENT HEADCOUNT	FULL-TIME EQUIVALENT OF COLUMN A	TOTAL NUMBER TO BE ACCOMMODATED AFTER COMPLETION OF ON-GOING AND FULLY AUTHORIZED CONSTRUCTION AND REMODELING	FULL-TIME EQUIVALENT OF COLUMN C	PROJECTED HEADCOUNT FOR FALL, 1983
		A	B	C	D	E
①	(TOTAL) UNDERGRADUATE					
2	FIRST YEAR STUDENTS					
3	SECOND YEAR STUDENTS					▨
4	THIRD YEAR STUDENTS					▨
5	FOURTH YEAR STUDENTS					▨
6	FIFTH YEAR STUDENTS					▨
7	SIXTH YEAR STUDENTS					▨
8	TOTAL GRADUATE STUDENTS					
9	ENROLLED FOR DEGREE					▨
10	NOT ENROLLED FOR DEGREE					▨

OTHER THAN "RESPONDENT'S STUDENTS"

		A	B	C	D	E
⑪	(TOTAL) UNDERGRADUATE		▨		▨	
12	FIRST YEAR STUDENTS		▨		▨	
13	POST DOCTORAL		▨		▨	
14	CONTINUING EDUCATION STUDENTS		▨		▨	
15	INTERNS AND RESIDENTS		▨		▨	
⑯	TOTAL OTHER STUDENTS		▨		▨	
⑰	PHYSICIAN ASSISTANTS		▨		▨	
⑱	HEALTH TECHNOLOGISTS		▨		▨	
⑲	NURSES (RN ONLY)		▨		▨	
⑳	OTHER		▨		▨	

RESPONDENT'S FACULTY/STAFF

		A	B	C	D	E
21	FULL-TIME FACULTY (INCLUDES GEOGRAPHIC FULL-TIME)		▨		▨	
22	PART-TIME FACULTY					
㉓	SUPPORT STAFF					

465

GENERAL COMMENTS

IMPAC CODE ____________

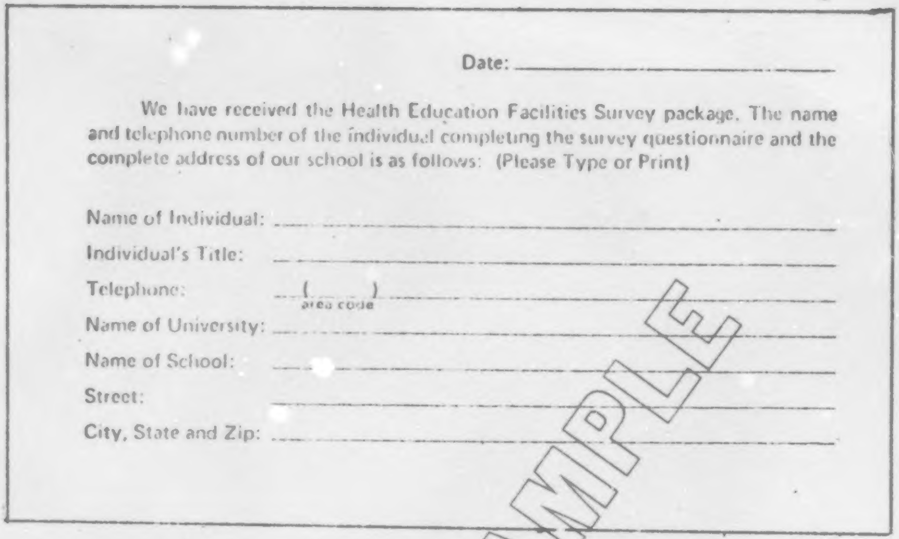
RESPONDENT MAY USE THIS SECTION TO PROVIDE ANY COMMENT OR TO ELUCIDATE HIS RESPONSE TO ANY ITEM IN THE QUESTIONNAIRE. (THE TWO COLUMN HEADINGS ARE PROVIDED TO FACILITATE RESPONDENT'S REFERENCE TO SPECIFIC PAGES AND ITEMS.)

PAGE NUMBER	ITEM NUMBER	

SAMPLE

THANK YOU FOR DEVOTING THE TIME AND MANPOWER TO COMPLETE THIS QUESTIONNAIRE.
A COPY OF THE PRINTED REPORT WILL BE SENT TO YOU AT THE COMPLETION OF THIS SURVEY.

d. (POSTCARD TO ACKNOWLEDGE RECEIPT OF PACKAGE) **(used for both instruments)**

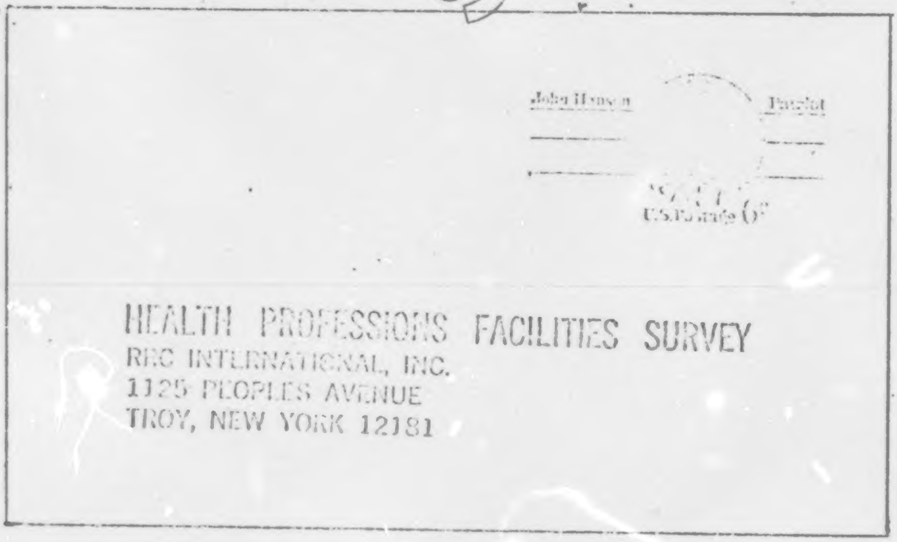


Date: ____________________

We have received the Health Education Facilities Survey package. The name and telephone number of the individual completing the survey questionnaire and the complete address of our school is as follows: (Please Type or Print)

Name of Individual: ____________________
Individual's Title: ____________________
Telephone: ( ) ____________________ area code
Name of University: ____________________
Name of School: ____________________
Street: ____________________
City, State and Zip: ____________________

SAMPLE



John Hanson Patriot
U.S. Postage 6¢

HEALTH PROFESSIONS FACILITIES SURVEY
RRC INTERNATIONAL, INC.
1125 PEOPLES AVENUE
TROY, NEW YORK 12181

e. APPENDIX I

DEFINITIONS OF TERMS USED IN
SURVEY OF HEALTH PROFESSIONS EDUCATION FACILITIES

Academic Week - The number of hours, during one week, available for classroom and class laboratory instruction of full-time health professions students; e.g., a 40 hour week.

Academic Year - The length of time, during one 12-month period, that a health professions school conducts regular undergraduate or graduate education on a full-time basis. Where this period varies by academic level, the academic year shall be defined as that period which serves the majority of the students.

Allocated Facilities - Those facilities whose use is controlled by a health professions school. Any facility used by more than one health professions school should be considered as allocated to that school which exercises authority over its day-to-day use.

Audiovisual Teaching Support Facilities - Those physical areas set aside for the planning, production and use of graphics, photography, films, video tapes, filmstrips, exhibits and other media used predominantly for instructional purposes (including space for the storage and maintenance of these materials and associated equipment needed to use the media).

Average Daily Patient Load - The total number of inpatient days of care (exclusive of newborn) rendered throughout a period of time in a hospital, divided by the total number of days in that period.

Basic Biological Science Instruction Facilities - Those physical areas used solely or primarily for instruction in such subject areas as anatomy, biochemistry, microbiology, pathology, pharmacology and physiology.

Clinical Material - Human or animal patients available for a health professions school's teaching and research purposes.

Clinical Science Instruction Facilities - Those nonpatient-care facilities used solely or primarily for instruction in subject areas dealing with the health, observation, diagnosis and treatment of patients.

Condition of Space - Space is in satisfactory condition if it is physically sound and suitable to Respondent's program purposes, even though it might be overcrowded. Space should be remodeled if, in order to effectively accommodate the activity for which it is used, it needs alteration, modification, reconditioning, rehabilitation, renovation, major repair (excluding routine maintenance), or changes in fixed equipment, architectural features, heating, lighting, electrical power, safety features, air conditioning or ventilation. Space should be replaced if it is structurally unsound or if its nature is such that to make it satisfactory for the purpose used, it would be economically advisable to replace rather than remodel it.

Continuing Education Student - Usually, a practicing professional who receives specialized training at a health professions school as a supplement or refresher to his previous education.

Freestanding Hospital or Clinic - A freestanding hospital or clinic is one which is in a building (1) structurally separate from other buildings; or (2) not structurally separate but structurally distinguishable from the building to which it is attached (e.g., a hospital might be contained in a wing or wings of a building).

FTE - Full Time Equivalent of Part-Time Faculty - Total hours of scheduled time provided by a part-time faculty member over one year, divided by the average yearly hours of reimbursed time for a full-time faculty member. (Where this definition conflicts with the respondent's method of computing FTE's of part-time faculty, the respondent's method shall apply.)

FTE - Full-Time Equivalent Student - A student's total semester hours of study during an academic year, divided by the prescribed number of semester hours of study for a full-time student of the comparative level. (Where this definition conflicts with the respondent's method of computing FTE's of students, the respondent's method shall apply.)

Full-Time Faculty - Teaching and research staff employed by a health professions school on a full-time basis during the academic year. Faculty on a geographic full-time basis shall be counted as full-time.

Graduate Health Professions School - A school offering only advanced health professions training which does not lead to the first health professional degree.

Graduate Health Professions Student - A student obtaining health professions education either (1) above the baccalaureate level, but not leading to the first health professional degree in his field of endeavor; or (2) beyond the first health professional degree. The student may or may not be enrolled for a degree. Interns and residents, and postdoctoral or continuing education students should not be included as graduate students.

GSF - Gross Square Feet - Please refer to Floor Plan I, page 5.

Health Professions School - A school of dentistry, medicine, optometry, osteopathy, pharmacy, podiatry, public health or veterinary medicine.

Health Technologies - See "Other Students", category 2.

HPEA - Health Professions Educational Assistance Act of 1963, P.L. 88-129, as amended. Federal grant-in-aid program for construction and remodeling of health professions education facilities, and other purposes. As used in this survey, "HPEA" shall be defined as consisting of the following legislation:

P.L. 88-129 Health Professions Educational Assistance Act of 1963
P.L. 89-290 Health Professions Educational Assistance Amendments of 1965
P.L. 90-490 Health Manpower Act of 1968
P.L. 92-157 Comprehensive Health Manpower Training Act of 1971.

IMPAC Code - An internal computer code used by NIH.

Joint-Use Facilities - Facilities used by two or more separately administered schools, one (or more) of which is a health professions school. These facilities may be: (1) provided to a health professions school by the parent university, or by a non-health professions school or department under its control (e.g., a College of Biological Sciences); (2) provided by the health science center of the university; or (3) allocated to one health professions school but shared with, or used by, another school of the university.

Locale (of Health Professions School, Hospital or Clinic) -

Inner City - The low-income area(s) of a city (if any exist).
Outer City - Outside of the inner city area(s) but within the city limits.
Suburban - Outside of the city limits but within the metropolitan area.
Rural - Beyond the metropolitan area of a city.

Major Affiliated Hospital or Clinic - For purposes of this survey, a major affiliated hospital or clinic is one that is considered to be indispensable to the educational program of Respondent's institution because it is: used as a major teaching unit; or offers necessary programs not available at other hospitals and clinics.

NASF - Net Assignable Square Feet - Please refer to Floor Plan III, page 7.

NSF - Net Square Feet - Please refer to Floor Plan II, page 6.

New Construction - Construction of an entire building or addition to an existing building.

Ongoing or Fully Authorized Construction and Remodeling - (1) Construction or remodeling that is underway as of the survey date; (2) construction or remodeling activities which have not begun as of the survey date but which have been approved by all parties whose funding and other authorizations are required prior to their start; and (3) construction or remodeling which is complete, but not yet occupied as of the survey date.

Other Hospitals and Clinics - For purposes of this survey, "other hospitals and clinics" are those that are used by Respondent for teaching purposes, but not as major units in the school's teaching program.

Other Students - For purposes of this survey, students in educational programs leading to the following types of positions in the health field shall be considered "other students":

1. Physician assistants;
2. Health Technologists - Radiologic, medical, dental and inhalation technologists, physical and occupational therapists, medical technicians, hygienists, and other positions in the allied health specialties;
3. Nurses (baccalaureate, associate degree, diploma);
4. Other - Nursing assistants, practical nurses, and all other positions in the health area not covered by the first three categories.

Outpatient Visit - A visit by a patient to a hospital, clinic, or other health care facility for diagnosis or treatment on an ambulatory basis.

Overcrowding - For purposes of this survey, a room shall be considered overcrowded if it does not properly accommodate the number of students, faculty, staff or equipment necessary to effectively conduct the activities for which it is used. Where these conditions occur sporadically, and represent no more than an intermittent inconvenience, the room shall not be considered overcrowded. Where these conditions cause major interferences with the school's effective use of the space, the room shall be considered overcrowded.

Owned Space - Facilities owned by a health professions school or its parent institution.

Parent Institution - Central or coordinating organizational unit of an institution of higher education which offers two or more separately administered educational curricula, at least one of which is a health professions curriculum. Typically, the central administration of the university, or a health sciences center.

Part-Time Faculty - Teaching and research faculty employed on less than a full-time basis by the school, whether on a paid or voluntary basis.

Remodeling - Renovation, rehabilitation, alteration, major repair (excluding routine maintenance), reconditioning, modification, or changes in architectural features, fixed equipment, heating, lighting, electrical power, air conditioning or ventilation.

Rented, Leased or Other Space - Facilities available for use by a health professions school on a rental, lease, or other basis, but not owned by the school or its parent institution.

Respondent's Students - Unless specifically stated otherwise, "Respondent's students" should be construed to mean Respondent's students of Dentistry, Medicine, Pharmacy, Podiatry, Public Health, Optometry, Osteopathy, or Veterinary Medicine, whichever is applicable. Other students, (e.g., allied health) either taught by Respondent's faculty, using Respondent's facilities, or both, should not be included except as explicitly requested.

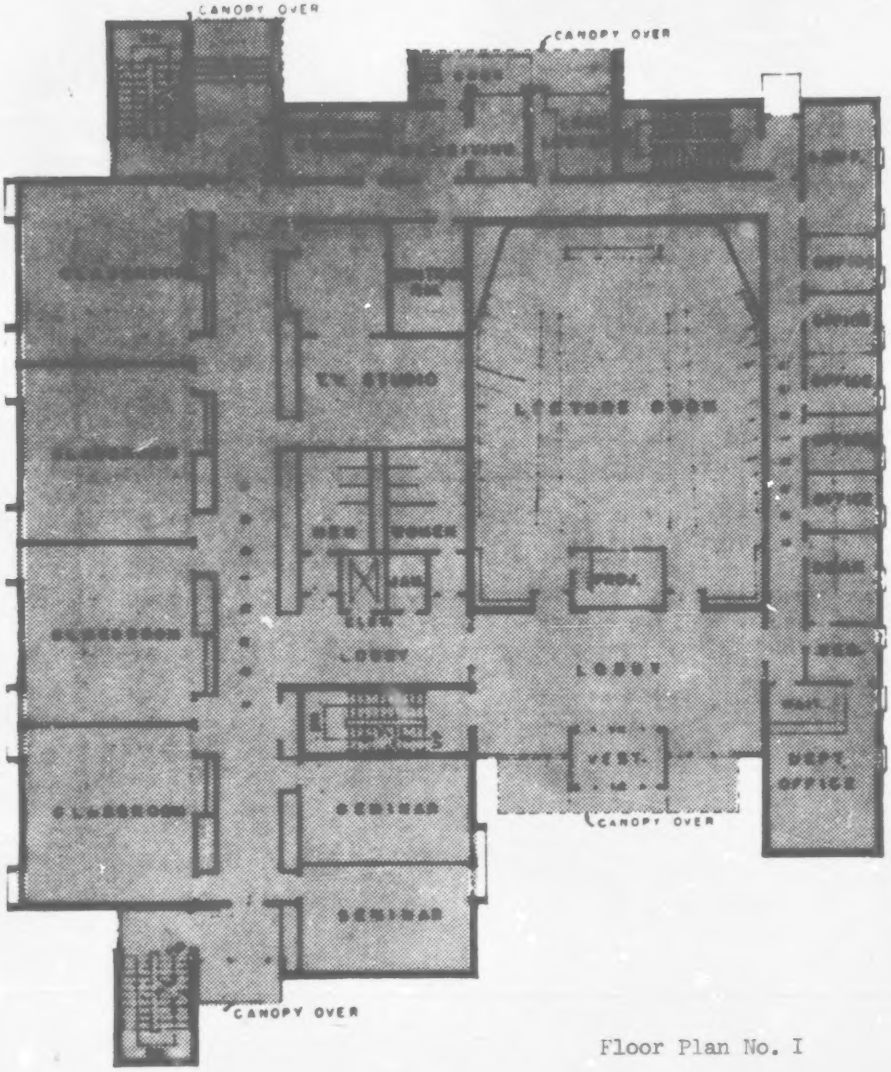
Room-Hour - A unit of measurement of room usage. It is defined as the use of one room, by one or more persons, for academic purposes, for one hour.

Student Stations - Seats, work stations, carrels, etc., available for use by students in classrooms, class laboratories, research areas, libraries, study halls, and assembly facilities.

Support Staff - All individuals on the school's payroll, regardless of rank (including student help), except full-time and part-time teaching and research faculty.

Type I, II, III Animal Facilities - See definition of "Animal Facilities" in Appendix II.

Undergraduate Health Professions Student - A student working toward the first health professional degree in one of the following eight health professions: dentistry, medicine, optometry, osteopathy, pharmacy, podiatry, public health, veterinary medicine.

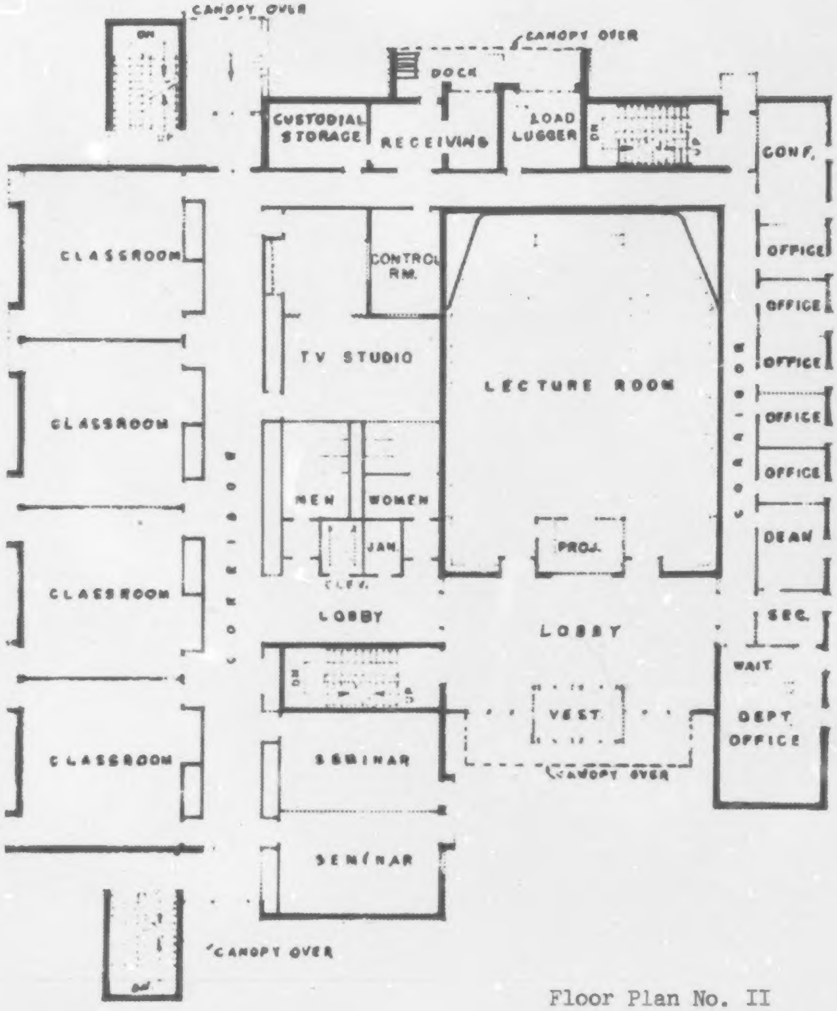

CANOPY OVER
CANOPY OVER
T.V. STUDIO
LECTURE ROOM
MEN
WOMEN
ELEV.
LOBBY
PROJ.
LOBBY
VEST.
CANOPY OVER
DEPT. OFFICE
SEMINAR
CLASSROOM
SEMINAR
CANOPY OVER

Floor Plan No. I

Key: GSF (Gross Square Footage) = ▨

The Gross Square Footage of a building should be construed to mean the sum of the floor areas included within the outside faces of exterior walls for all stories, or areas, which have floor surfaces.

Open courts and light wells, or portions of upper floors eliminated by rooms or lobbies which rise above single-floor ceiling height, should not be included in GSF.


CANOPY OVER
DN
UP
CANOPY OVER
DOCK
CUSTODIAL STORAGE
RECEIVING
LOAD LUGGER
CONF.
CLASSROOM
CONTROL RM.
TV STUDIO
LECTURE ROOM
OFFICE
OFFICE
OFFICE
OFFICE
OFFICE
CLASSROOM
CORRIDOR
MEN
WOMEN
CORRIDOR
DEAN
CLASSROOM
JAN.
PROJ.
ELEV.
LOBBY
LOBBY
SEC.
WAIT
DEPT. OFFICE
VEST.
CANOPY OVER
CLASSROOM
SEMINAR
SEMINAR
CANOPY OVER
DN

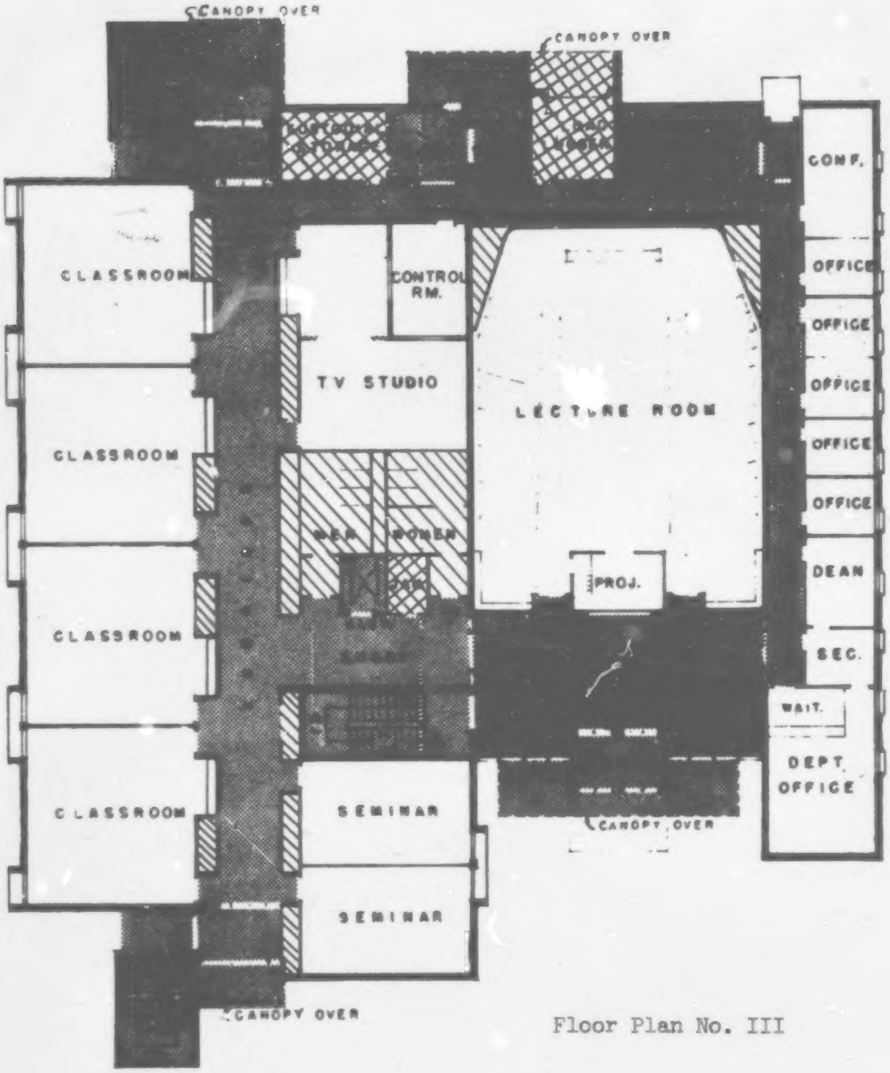
Floor Plan No. II

Key: NSF (Net Square Footage) = ☐

Net Square Footage is the difference between GSF (see Floor Plan I) and "Construction Area" (the dark portions of Floor Plan II).

"Construction Area" is simply that portion of the gross area which cannot be put to use because of the presence of structural features of the building.

Examples of areas normally classified as construction area are exterior walls, fire walls, permanent partitions, and unusable areas in attics, basements, or comparable portions of the building.


CANOPY OVER
CANOPY OVER
CONF.
CLASSROOM
CONTROL RM.
OFFICE
OFFICE
TV STUDIO
LECTURE ROOM
OFFICE
CLASSROOM
OFFICE
OFFICE
MEN
WOMEN
PROJ.
DEAN
CLASSROOM
SEC.
WAIT.
CLASSROOM
SEMINAR
DEPT. OFFICE
CANOPY OVER
SEMINAR
CANOPY OVER

Floor Plan No. III

Key: NASF (Net Assignable Square Footage) = ☐

Net Assignable Square Footage should be construed to mean all areas of a building which are assigned to, or available for assignment to, an occupant, including every type of space functionally usable by an occupant (excluding circulation, mechanical, and custodial areas as defined below).

Key: Circulation Areas = ■

"Circulation Area" should be construed to mean that portion of the gross area--whether or not enclosed by partitions--which is required for physical access to some subdivision of space.

Circulation areas should include, but not be limited to: corridors (access, public, service, also "phantom" for large unpartitioned areas); elevator shafts; escalators; fire towers or stairs; stairs and stair halls; loading platforms (except when required for operational reasons and, thus, includable in net assignable area); lobbies (elevator, entrance, public, also public vestibules).

Key: Mechanical Areas = ▨

"Mechanical Area" should be construed to mean that portion of the gross area designed to house mechanical equipment, utility services, and non-private toilet facilities.

Mechanical area should include, but not be limited to: Air-duct shafts; boiler rooms; fixed mechanical and electrical equipment rooms; fuel rooms; mechanical service shafts; meter and communications closets; service chutes; stacks; and non-private toilet rooms (custodial and public).

Key: Custodial Areas = ▦

"Custodial Area" should be construed to mean the sum of all areas on all floors of a building used for building protection, care, maintenance, and operation.

Included should be such areas as custodial, locker rooms, janitors' closets, maintenance storerooms.

f. APPENDIX II

DEFINITIONS OF ROOM TYPES

SURVEY OF HEALTH PROFESSIONS EDUCATION FACILITIES

The taxonomy of room-type codes used in this survey is based on the U. S. Office of Education's "Higher Education Facilities Classification and Inventory Procedures Manual", Publication OE-51016. Notably, while our room-type definitions use these codes as a starting point, the focus upon health professions education facilities may require reappraisal of the codes currently assigned to rooms, in order that the rooms be reported properly on the questionnaire. Also please note that room classifications are a function of physical characteristics and usage, rather than physical location.

Classroom-Type Instructional Space - Space used by classes which do not require special-purpose equipment for student use. Included in this category are rooms generally referred to as general purpose classrooms, lecture rooms, lecture-demonstration rooms, seminar rooms, conference rooms (if used for teaching) and associated service areas. The following room types are included in this category for the purpose of this survey:

110 - Classroom
115 - Classroom Service
350 - Conference Room (used for teaching)
355 - Conference Room Service (by association with conference room)

This category does not include conference rooms whose primary function is that of administrative meetings (as opposed to classes).

Class Laboratories - Space used by regularly scheduled classes which require special-purpose equipment for individual or group participation, experimentation, observation, or practice in a field of study. Also included are all associated class laboratory facility service areas. The following room types are included in this category for the purpose of this survey, except as specifically noted in the instructions:

210 - Class Laboratory
215 - Class Laboratory Service (excluding animal rooms)
220 - Special Class Laboratory
225 - Special Class Laboratory Service
230 - Individual Study Laboratory
235 - Individual Study Laboratory Service

Important: Certain types of class laboratories may be used for both patient-care purposes and for instructional activities not actually involving patients. Where this occurs, Respondent should treat such facilities as patient-care facilities for reporting purposes. Thus, any rooms used for patient care should not be reported under "class laboratories".

Special-Purpose Class Laboratory - (A subset of room types 210 through 235). This definition is to be used only when reporting room use data. A Special-Purpose Class Laboratory is a class laboratory that is equipped and oriented to serve a single or unique purpose (such as a gross anatomy laboratory) in the instruction of a health professions student.

Research and Research Training Space - Space used for laboratory applications, research, and/or training in research methodology, which requires special-purpose equipment for staff and/or graduate student experimentation or observation. Included in this category are rooms generally referred to as research laboratories, research laboratory-offices, and associated service areas. The following room types are included in this category for the purpose of this survey:

250 - Non-Class Laboratory
255 - Non-Class Laboratory Service (excluding animal rooms)
310 - Office (Research)
315 - Office Service (Research)

Library Space - Space used for the orderly collection, storage and retrieval of knowledge. In determining whether a facility which houses books and similar material shall be reported as library space, both of the following criteria must be met:

a. At least one full-time attendant is present.

b. There is systematic administration and prosecution of programs of acquisition, cataloging, and reference work.

Library space may be housed in a central location or it may be decentralized and housed in two or more separate facilities of varying size. However, each such facility must meet the criteria in order to qualify as library space. Include study rooms, book storage rooms, reading rooms, carrels, individual study stations, study booths, library processing rooms, library administrative areas, and associated library facilities service areas which are directly related to library functions. The following room types shall be included in this category for the purpose of this survey:

310 - Office (Library)
315 - Office Service (Library)
350 - Conference Room (Library)
355 - Conference Room Service (Library)
410 - Study Rooms
420 - Stacks
430 - Open-Stack Reading Rooms
440 - Library Processing Rooms
455 - Study Facilities Service

Auditoriums - Rooms designed and equipped for the assembly of large numbers of people. The following room types are included in this category for the purpose of this survey:

610 - Assembly Facilities
615 - Assembly Facilities Service

A large lecture hall should be reported as an auditorium if its seating capacity is at least twice the size of Respondent's most recent entering class of Health Professions students (to the exclusion of allied health, etc.).

If the Respondent should substitute any of the following large facilities of a university for auditoriums, they may be reported as auditoriums:

510 - Armory Facilities
515 - Armory Facilities Service
520 - Athletic-Physical Education Facilities
523 - Athletic Facilities Spectator Seating
525 - Athletic-Physical Education Facilities Service

Faculty Offices - Rooms used by faculty working at a desk or table. Included in this category is all office space which is: (1) assignable to members of the teaching faculty whose primary function is that of teaching; or (2) used by graduate and teaching assistants. The office space assigned to a department head whose primary function is that of teaching thus should be included in this faculty office category. However, the office space of a dean whose primary function is that of administrator should not be included in the faculty office category but should be included under "Administrative Offices and Areas". The following room types are included in this category for the purpose of this survey:

310 - Office (Faculty)
315 - Office Service (Faculty)

Administrative Offices and Areas - Rooms used by support staff working at a desk or table. Included in this category are rooms generally referred to as administrative offices, clerical offices, and administrative conference rooms, as well as all associated service areas. The following room types are included in this category for the purpose of this survey:

310 - Office (Administrative)
315 - Office Service (Administrative)
350 - Conference Room (Administrative)
355 - Conference Room Service (Administrative)

Animal Facilities - For the purposes of this survey, animal facilities for instruction and research are those physical areas associated with laboratory animal care, whether physically dispersed or in one location. Schools of Veterinary Medicine should exclude from this category all inpatient and outpatient diagnostic and care facilities for animal patients but should include animal resource farms if controlled or operated by Respondent.

Only the following areas should be included (exclude open pasture and other wholly nonsheltered areas):

Type I - Completely enclosed animal rooms with environmental controls; including animal service areas, such as cage washing and sterilization, receipt and processing, storage, office space, incinerator or protected area for refuse, X-ray facilities, diagnostic laboratory necropsy, surgery.

Type II - Combination indoor-outdoor housing and restricted exercise areas, such as kennels with runs, indoor-outdoor primate facilities, etc. (include both indoor and outdoor space).

Type III - Shelters with no environmental controls (e.g., barns, open sheds, etc.).

The following room types are among those included as animal facilities for instruction and research:

215 - Class-Laboratory Service (Animal rooms only)
255 - Non-Class Laboratory Service (Animal rooms only)

On-Site Patient Care Facilities - Inpatient and ambulatory care facilities (and associated service areas) which are located within Respondent's didactic buildings. The following list of room types may have been used as a starting point for the classification of such "on-site" facilities, but may not be exhaustive.

810 - Human Hospital-Clinic Facilities
815 - Human Hospital-Clinic Facilities Service
820 - Human Hospital-Patient Care Facilities
825 - Human Hospital-Patient Care Facilities Service
840 - Dental Clinic Facilities
845 - Dental Clinic Facilities Service
850 - Veterinary Hospital-Clinic Facilities
855 - Veterinary Hospital-Clinic Facilities Service
860 - Veterinary hospital-Animal Care Facilities
865 - Veterinary Hospital-Animal Care Facilities Service

Other Space - Include in this category all remaining net assignable space not accounted for in the above listed categories, but used for, or in support of, the educational process. For the purpose of this survey, the following room types are included under "Other Space"; but may not be an exhaustive listing:

510 - Armory Facilities*
515 - Armory Facilities Service*
520 - Athletic-Physical Education Facilities*
523 - Athletic Facilities Spectator Seating*
525 - Athletic-Physical Education Facilities Service*
530 - Audio-Visual, Radio, TV Facilities
535 - Audio-Visual, Radio, TV Facilities Service
540 - Clinic Facilities (Non-Medical)
545 - Clinic Facilities Service (Non-Medical)
550 - Demonstration Facilities
555 - Demonstration Facilities Service
560 - Field-Service Facilities
590 - Other Special-Use Facilities
595 - Other Special-Use Facilities Service
620 - Exhibition Facilities (Non-Instructional)
625 - Exhibition Facilities Service (Non-Instructional)
630 - Food Facilities (Outside of Residence Halls)
635 - Food Facilities Service (Outside of Residence Halls)
640 - Health Facilities (Student)
645 - Health Facilities Service (Student)
650 - Lounge Facilities
655 - Lounge Facilities Service
660 - Merchandising Facilities (Bookstore, etc.)
665 - Merchandising Facilities Service

---

*If these facilities are used as auditoriums, do not include as "Other Space".

670 - Recreation Facilities
675 - Recreation Facilities Service
690 - Other General-Use Facilities
695 - Other General-Use Facilities Service
710 - Data Processing-Computer Facilities
715 - Data Processing-Computer Facilities Service
720 - Shop Facilities
725 - Shop Facilities Service
730 - Storage Facilities
735 - Storage Facilities Service
740 - Vehicle Storage
745 - Vehicle Storage Service
750 - Central Food Stores
760 - Central Laundry
790 - Other Supporting Facilities
795 - Other Supporting Facilities Service

NOTES:

The following room types are excluded from the survey:

910 - Residence for Single Persons
911 - Dormitory
912 - Food Service in Residence Halls
920 - One-Family Dwelling
930 - Multiple Family Dwelling

Also, exclude the following "nonassignable" areas when reporting the square footage of the above room types:*

010 - Custodial Area
020 - Circulation Area
030 - Mechanical Area
040 - Construction Area

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*There are a limited number of boxes on the questionnaire dealing with Gross Square Feet and Net Square Feet where codes 010, 020, 030 and 040 are included.

C3. Parent Institution Questionnaire

a. (TRANSMITTAL LETTER FOR PARENT INSTITUTION PACKAGE)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH
BETHESDA, MARYLAND 20014

BUREAU OF HEALTH MANPOWER EDUCATION

May 11, 1973

The Parent Institution Questionnaire on facilities as described in our letter of May 1, 1973 is enclosed.

Also enclosed are:

1. A General Information and Instruction Pamphlet citing the purpose and scope of the survey, the page-by-page instructions for completing the questionnaire, and other information;
2. Appendix I - Definitions of Terms Used in the Questionnaire;
3. Appendix II - Definitions of Column Headings on the Questionnaire.

The questionnaire (to be completed at the University level) deals with joint-use facilities provided to the University health professions schools. It complements the questionnaire on allocated facilities that has been forwarded for completion to your health professions schools.

The complexity of the survey indicates that a person very familiar with your university and the administrative officials be assigned the responsibility for compiling and reporting the requested data.

Personnel of RRC International, Inc., the agency conducting the survey for us, will be on call to help resolve difficulties, or to suggest solutions to common problems. We ask you to complete and return the enclosed post card to RRC as soon as possible to establish communication. Should any question arise which needs clarification, do not hesitate to contact RRC International, Inc., as follows:

Dr. Allen Paisuck, Project Director
RRC International, Inc.
1125 Peoples Avenue
Troy, New York 12181
Telephone: (518) 274-8114

We hope that you will be able to complete and return the questionnaire to RRC by June 30, 1973. The results of this survey are important to everyone and its success depends upon the effort of each and every respondent. This survey represents an inventory of the total health professions education sector; therefore, a 100% response will improve its usefulness.

We know that the survey imposes a major demand on all respondents, but we think that the results will be of internal value to respondents. The results of the survey will be published and made available to each respondent.

Again, we thank you for your cooperation in this important undertaking.

Sincerely yours,

KMEndicott

Kenneth M. Endicott, M.D.
Director
Bureau of Health Manpower Education

Harry W. Bruce, Jr., D.D.S.
Director
Division of Physician and
Health Professions Education

Enclosures

DHEW PHS NIH BHME

b. GENERAL INFORMATION AND INSTRUCTION PAMPHLET

SURVEY OF HEALTH PROFESSIONS EDUCATION FACILITIES
IN THE PUBLIC AND PRIVATE NONPROFIT INSTITUTIONS
OF THE UNITED STATES--1973

PURPOSE AND SCOPE

One of the basic missions of the Bureau of Health Manpower Education, National Institutes of Health, is to overcome today's health manpower shortage that adversely affects the delivery of health care in the Nation. Extensive professional judgment holds that insufficient and inadequate health professions educational facilities may be among the primary causes impeding the production of the necessary manpower.

The Division of Physician and Health Professions Education of the Bureau of Health Manpower Education considers it essential to conduct a national mail survey to verify and identify any existing facility inadequacies in health professions schools. This will be done by type of school, geographic location, and other factors. The survey will also assess the capacity of schools to increase their manpower outputs within existing resources. Survey results, in conjunction with other information, will assist the Executive Branch of the Government and the Congress to define more accurately their goals and priorities in the health area, and will aid in formulating a solution to the facilities aspects of the manpower problem.

Although many reports and studies bear on the facilities problem, none approaches the in-depth effort proposed by this survey. While it is recognized that the survey imposes a major demand on the respondent institutions, it is felt that such a survey is essential if we are to develop meaningful facilities data aimed ultimately at aiding all types of health professions schools and significantly advancing the Nation's health care system.

Please be assured that the data you provide will be treated as professionally privileged. Reports prepared from the survey will not reveal specific data of any single institution. A copy of the final report will be forwarded to each respondent.

SUBJECT MATTER OF SURVEY

Data is sought on the amount, types, and condition of space currently used for undergraduate, graduate, and continuing education in the Nation's health professions schools. Information is also sought as to the numbers of students, faculty and support staff occupying the space, and the degree of overcrowding, if any. The intensity of space utilization will be studied, as well as information concerning the various needs or problems confronting the respondents. Data on ongoing construction and remodeling, and a projection of future such activities round out the survey.

DEVELOPMENT OF THE SURVEY

Initial planning of the survey began in July, 1970. Objectives, uses and justification of the survey were carefully spelled out. A contract was let with Rensselaer Research Corporation (now, RRC International, Inc.) of Troy, New York to assist in this major undertaking. A panel of 13 consultants, representing the eight health professional disciplines and expertise in teaching support services, libraries and hospitals, was appointed and met periodically with NIH and RRC to provide advice and guidance in the survey. All the health professions school associations, as well as interested Federal and non-Federal agencies, were also consulted and their advice sought. Finally, the survey forms were pretested at nine health professions education institutions prior to the full-scale mailing to approximately 300 existing and developing schools of dentistry, medicine, optometry, osteopathy, pharmacy, podiatry, public health and veterinary medicine.

DEFINITIONS

Due to the variety of health professions schools being surveyed, it is anticipated that much of the terminology relevant to this effort will not be standard over the nation. To help assure compatibility in reporting procedures, those terms most critical to the proper completion of the questionnaire have been defined in Appendices I and II.

Appendix II, containing the definitions of various facilities types (and corresponding directly with the reporting requirements of the survey instrument) has been separated from Appendix I for ease of reference.

DUE DATE AND RETURN OF QUESTIONNAIRES

The questionnaires should be completed and forwarded to the following address by June 30, 1973:

Health Professions Facilities Survey
RRC International, Inc.
1125 Peoples Avenue
Troy, New York 12181

OVERVIEW OF PARENT INSTITUTION QUESTIONNAIRE (BLUE)

This questionnaire, to be completed by the parent institution, deals solely with joint-use space provided by the parent institution (or by a non-health professions school, department or health science center under its jurisdiction) to its health professions schools.

Page 1:	Identifies and characterizes parent institution.
Page 2:	Obtains the current inventory of joint-use space.
Page 3:	Requests data on ongoing and fully authorized construction and remodeling of joint-use facilities.
Page 4:	Obtains data on the Audiovisual Teaching Support Services provided by the parent university, and attempts to determine parent institution's construction plans for joint-use facilities over the next 10 years.
Page 5A/ 5B:	Obtains data as to the current inventory, ongoing construction, and projected 1983 construction plans for University owned hospitals.
Page 6:	Solicits Respondent's general comments or clarifications as to any of his responses to the questionnaire.

GENERAL INSTRUCTIONS

1. It is urged that the instructions in this pamphlet be utilized while the questionnaire is being completed. Circled item numbers on the questionnaire indicate items for which necessary instructions have been provided. Should any question arise regarding the proper reporting of space, or interpretation of instructions, definitions, and terminology please call RRC International, Inc. collect at:

518-274-8112	Monday through Friday
-8114	between the hours of 8:30 A.M. and 5:00 P.M.
-8242	(Eastern Time Zone)

   Individuals qualified to discuss the form will be available for your assistance.

   It is also suggested that much time and effort may be saved if Appendices I and II are studied prior to any attempt to complete the questionnaire.

2. The survey pretest indicated that a critical first step in the data-gathering phase of Respondent's effort is the development of a room-by-room listing of all facilities currently available for joint-use. Many campuses will have such a listing, at least on a campus-wide basis, as a result of the Office of Education's HEGIS efforts (Higher Education General Information Survey). In other cases, floor plans will provide an acceptable substitute for the room-by-room listing.

   For each room used by at least one health professions school, but not allocated to a health professions school, the following information should be listed:

   (a) Type of room.

   (b) Ownership of building in which room is located.

   (c) Floor area.

   (d) Number of student stations.

   (e) Condition of the room as related to its use (satisfactory for purpose used, needs remodeling, needs replacement).

   (f) Whether or not room was at least partially constructed or remodeled with HPEA assistance.

   The same data elements (except for condition of space) should also be obtained for:

   (a) rooms in buildings which are undergoing construction or are fully authorized for construction and will, upon completion, be jointly utilized; and

   (b) rooms of the types defined in Appendix II which are found in University-owned Hospital and Clinic facilities.

   Proper tallying of subsets of the above data will essentially yield the information necessary to fill out pages 2 and 3. Data for the remainder of the form will be found in a variety of offices.

3. All square footage and dollar figures over the value 500 shall be rounded to the nearest thousand and stated in thousands. For example, 23,748 net assignable square feet shall be reported as 24; 17,500 would be reported as 18; $17,499 as $17. Figures under 500 should be rounded and reported as one-place decimal portions of 1000. Thus 380 square feet would be reported as .4.

4. Please note that not all pages or boxes will be completed by all Respondents. The various pages and the large number of boxes are included in the questionnaires so that every Respondent will be able to provide the entries that pertain to his school. Boxes which do not apply to Respondent may either be filled with zeroes or left blank.

5. All space in residence halls (dormitories, food service areas, etc.) is excluded from this survey.

6. The term "as of the survey date" as used in these instructions refers to the approximate date of Respondent's receipt of this survey package.

PAGE-BY-PAGE INSTRUCTIONS FOR COMPLETING THE PARENT INSTITUTION QUESTIONNAIRE (BLUE)

General — This form deals solely with joint-use space provided by the parent institution (or by a non-health professions school, department, or health science center under its jurisdiction) to its health professions schools. If no joint-use space is provided (or planned), the parent institution shall complete only page 1 of the form.

◀PAGE 1▶ General Information

General — Certain data may have been entered from NIH's computer files. Please correct any erroneous entries and fill in any blank items.

Specific

Item 2 — The IMPAC code is an internal code used by NIH. Do not specify this code if it has been left blank.

Item 4 — Check the designations that best describe the health professional curricula administered by Respondent. Check box (i) only if parent institution has a combination school (such as a School of Medicine and Dentistry) whose facilities are inseparable by type of school. If Respondent has a combination school whose component schools use separate facilities, Respondent should report them as separate schools. If box (i) is checked, please indicate in the space provided the letter codes (a through h) identifying the health professions programs that constitute this combination school.

◀PAGE 2▶ Joint-Use Facilities Used by Health Professions Schools

General

(a) This page elicits the nature and extent of the joint-use space currently provided to health professions schools. It thus covers space which the health professions schools use, but which is not allocated to any one of them.

(b) Report only that space which is available for use as of the survey date.

Specific

Item 1 — Report in columns B through J the total net assignable square feet (NASF) of joint-use space of the types referred to in the column headings. Please see Appendix II for the definitions of these types of space. Do not include facilities being constructed as of the survey date (these will be reported on page 3). Space which is currently unavailable for use due to remodeling should be reported as "other space" (column J).

Item 2 — See Appendix I for the definition of "condition of space".

Item 4 The number of student stations in "Library Space" may be approximated by a count of the number of chairs available for student seating in all library areas.

Item 5 Do not include service areas when reporting number of rooms.

Item 6 Even if a given room was only partially funded with HPEA aid, include that room's total NASF. (See definition of HPEA.)

Items 7-10 Similar to instructions for items 1, 2, 4, and 5.

◀PAGE 3▶ Ongoing and Fully Authorized Construction and Remodeling of Joint-Use Facilities

General

(a) Report only that construction or remodeling of joint-use facilities which will not be allocated to any health professions school but which will be used by at least one such school upon completion.

(b) Do not report any past construction or remodeling.

Specific

Items A.1 and A.2 These items attempt to obtain a total overview of the ongoing construction and remodeling of joint-use space. (See Appendix I for definitions of gross and net square feet.) Respondent should report a pro-rata share of the costs, GSF, and NSF of buildings which will contain both joint-use and allocated facilities. This share may be computed by finding the NASF of the entire building, and calculating the fraction which is to be used as joint-use space. This fraction may then be applied to both cost and square footage figures prior to posting.

In column d ("NSF of HPEA ASSIST.") enter the Net Square Footage of space whose remodeling or construction was at least partially funded with HPEA assistance. (See Appendix I for definition of HPEA.)

Item B The sum of items a-d must agree with item 2, column b. Where purposes of construction overlap, and clear-cut separations by the four purposes are difficult, please provide your best estimates.

Items C.2.a-C.2.i Report the same fractional parts (of the actual amount from each source) as used in items A.1. and A.2, unless more specific data are available.

Item D.1 Confine the reporting of remodeling to only those rooms that are actually undergoing remodeling (or are fully authorized to be remodeled). When remodeling converts space from one room type to another, report the space in terms of the new room type. If any space being remodeled was included in "other space" (column J) on page 2, it should now be reported under the appropriate column headings.

Items E.1-E.4 In estimating the revised inventory of joint-use space, include all ongoing and fully authorized construction and those portions of the space reported on page 2 which will be retained as joint-use space.

In item E.3 the number of student stations in library space may be approximated by a count of the number of chairs expected to be available for student seating in all library areas.

When reporting numbers of rooms in item E.4, do not include service areas.

◀PAGE 4▶

Section A Refer to Appendix I for the definition of "Audiovisual Teaching Support Facilities".

Section B Future Construction and Remodeling

General The construction plans for joint-use facilities should reflect as realistically as possible such constraints as the projected availability of construction funds, planning lead-time, available operating funds, desired growth rate in the size of the health professional student enrollment, availability of faculty, etc.

Specific

Item 3 The sum of items a-d must agree with item 1. Where purposes of joint-use construction overlap, and clear-cut separations by the four purposes are difficult, please provide your best estimates.

◀PAGE 5A and 5B▶ University Owned Hospital(s) and Clinic(s)

General

(a) Do not report a hospital or clinic used by only one health professions school.

(b) A separate page should be prepared for each owned hospital or clinic reported.

(c) Column H (Administrative Offices) should include only those offices assigned to administrative personnel of an educational program (e.g., Dean of Students or Registrar). Such offices as the admitting office, hospital administrator, finance office, maintenance office, etc., should be excluded.

(d) Column I (Animal Facilities) excludes laboratory and associated service facilities for animals used for diagnostic purposes.

(e) If Respondent does not presently own a hospital or clinic and is not currently constructing or remodeling one, write "NONE" across the page in bold letters and continue to page 6.

Section A

Specific

Item 3 See Appendix I for definition of "Locale".

Item 4 Report the GSF of the entire hospital or clinic even though students may use only a portion of that facility for academic purposes. (See Appendix I for definition of Gross Square Feet).

Items 5 and 6 — Even if a given room was only partially funded through the HPEA Act (see definition) include that room's total Gross or Net Square Footage, as appropriate. (See Appendix I for definition of Net Square Feet.)

Item 7 — For schools of Veterinary Medicine, substitute ANIMAL HOLDING UNITS for "beds".

Item 8b — For a given room, the number of patient stations shall be the number of patients who could be treated simultaneously in that room. Aggregate and report the total number of patient stations in all examining and treatment rooms used for student instruction.

Item 12 — Do not include service areas when reporting number of rooms.

Item 13 — For each type of space, the need for additional NASF is equal to the total NASF needed (for health professions students only--see Appendix I for definitions) minus the NASF available for use as of the survey date.

In determining NASF available, do not include space involved in ongoing construction and remodeling unless it represents space which is currently usable. (It is recognized that completion of ongoing construction and remodeling may reduce some or all of the needs reported.)

Item 14 — The list below indicates five possible reasons for the needs expressed in item 13. For each type of space needed, enter in item 14 the letter code of the reason which best applies:

A. Relief of overcrowding (Code = A)

B. Poor physical condition (Code = B)

C. Replacing obsolete space (Code = C)

D. Missing from current inventory (Code = D)

E. Other (specify on page 6) (Code = E).

Item 16 — The sum of a, b, and c should equal item 10, column A.

Section B

General — Do not report any past construction or remodeling.

Specific

Items 1a and 1b Column 4 — Even if a particular room was only partially funded with HPEA assistance, include that room's total net square footage.

Item 2 — Answer only if ongoing and fully authorized construction and remodeling will result in a change to the number of beds and/or patient stations available for student use. If the number of beds and/or patient stations will decrease, report the decrease by inserting a minus sign in front of the difference.

Item 3	The sum of items a-d must agree with item 1b, column 2. Where purposes of construction overlap, and clear-cut separations by the four purposes are difficult, please provide your best estimates.
Item 6	In estimating the revised inventory, include all ongoing and fully authorized construction, and those portions of the current inventory which will be retained.
Item 7	In estimating the remaining need, first estimate that enrollment to be accommodated upon completion of the construction and remodeling.
Item 8	See instructions for item 14 in section A.

Section C

Item 1	Answer all questions in terms of space available for use by health professions students.
Item 2	The sum of items a-d should equal the figure reported in item C.1.b.

DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
NATIONAL INSTITUTES OF HEALTH
BUREAU OF HEALTH MANPOWER EDUCATION

SURVEY OF HEALTH PROFESSIONS EDUCATION FACILITIES IN THE NON-PROFIT SECTOR: 1973

PARENT INSTITUTION QUESTIONNAIRE

SAMPLE

1. NAME OF PARENT INSTITUTION: ②

3. ADDRESS: STREET CITY STATE ZIP

④ TYPES OF HEALTH PROFESSIONS CURRICULA OFFERED (CHECK (✓) ALL WHICH APPLY):

- (a) ☐ DENTISTRY
- (b) ☐ MEDICINE
- (c) ☐ OPTOMETRY
- (d) ☐ OSTEOPATHY
- (e) ☐ PHARMACY
- (f) ☐ PODIATRY
- (g) ☐ PUBLIC HEALTH
- (h) ☐ VETERINARY MEDICINE
- (i) ☐ COMBINATION OF (ENTER LETTE
  ____, ____, ____

5. INDIVIDUAL WHO MAY BE CONTACTED REGARDING PREPARATION OR COORDINATION OF THIS QUESTIONNAIRE:

NAME ____ TITLE ____ ( ) ____ TELEPHONE NO.

6. TYPE OF CONTROL OF RESPONDENT (CHECK (✓) ONE):

- (a) ☐ PRIVATE NON-PROFIT
- (b) ☐ PUBLIC (STATE)
- (c) ☐ PUBLIC (COUNTY)
- (d) ☐ PUBLIC (CITY)
- (e) ☐ OTHER (SPECIFY) ____

7. DOES PARENT INSTITUTION PROVIDE (OR PLAN TO PROVIDE) "JOINT-USE" SPACE (SEE DEFINITION) TO ONE OR MORE HEALTH PROFESSIONS SCHO
SPACE CAN BE PROVIDED BY THE PARENT INSTITUTION, BY A NON-HEALTH PROFESSIONS SCHOOL, OR BY THE HEALTH SCIENCES CENTER OF THE U

☐YES ☐NO

IF "YES", PARENT INSTITUTION SHALL COMPLETE REMAINING PAGES OF THIS FORM. IF "NO", PARENT INSTITUTION SHALL COMPLETE ONLY PAGE
FORWARD BY JUN 3 0 1973 TO:

HEALTH PROFESSIONS FACILITIES SURVEY
RRC INTERNATIONAL, INC.
1125 PEOPLES AVENUE
TROY, NEW YORK 12181

A-96

493

OMB 68-S73016
JANUARY 31, 1973

DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
NATIONAL INSTITUTES OF HEALTH
BUREAU OF HEALTH MANPOWER EDUCATION

SURVEY OF HEALTH PROFESSIONS EDUCATION FACILITIES IN THE NON-PROFIT SECTOR: 1973

PARENT INSTITUTION QUESTIONNAIRE

N:

② IMPAC CODE

STREET CITY STATE ZIP

NS CURRICULA OFFERED (CHECK (✓) ALL WHICH APPLY):

(d) ☐ OSTEOPATHY
(e) ☐ PHARMACY
(f) ☐ PODIATRY
(g) ☐ PUBLIC HEALTH
(h) ☐ VETERINARY MEDICINE
(i) ☐ COMBINATION OF (ENTER LETTER-CODES) ____, ____, ____

SAMPLE

TACTED REGARDING PREPARATION OR COORDINATION OF THIS QUESTIONNAIRE:

____________ TITLE ____________ ( ) TELEPHONE NO. ____________ EXTENSION ____________

DENT (CHECK (✓) ONE):

(a) ☐ PRIVATE NON-PROFIT
(b) ☐ PUBLIC (STATE)
(c) ☐ PUBLIC (COUNTY)
(d) ☐ PUBLIC (CITY)
(e) ☐ OTHER (SPECIFY) ____________

OVIDE (OR PLAN TO PROVIDE) "JOINT-USE" SPACE (SEE DEFINITION) TO ONE OR MORE HEALTH PROFESSIONS SCHOOLS? (JOINT-USE
HE PARENT INSTITUTION, BY A NON-HEALTH PROFESSIONS SCHOOL, OR BY THE HEALTH SCIENCES CENTER OF THE UNIVERSITY)

☐ YES ☐ NO

SHALL COMPLETE REMAINING PAGES OF THIS FORM. IF "NO", PARENT INSTITUTION SHALL COMPLETE ONLY PAGE 1 OF THIS FORM AND
3____ TO:

HEALTH PROFESSIONS FACILITIES SURVEY
RRC INTERNATIONAL, INC.
1125 PEOPLES AVENUE
TROY, NEW YORK 12181

C. Parent Institution Questionnaire

494

IMPAC CODE ____

JOINT-USE FACILITIES CURRENTLY PROVIDED TO HEALTH PROFESSIONS SCHOOLS

(EXCLUDE SPACE IN HOSPITALS AND CLINICS)

INSTRUCTIONS: REPORT ALL SPACE USED BY THE PARENT INSTITUTION'S HEALTH PROFESSIONS SCHOOLS, BUT NOT ALLOCATED TO ANY ONE OF THEM.

CHECK (✓) THE HEALTH PROFESSIONS SCHOOLS USING JOINT-USE FACILITIES:

1. ☐ DENTISTRY
2. ☐ MEDICINE
3. ☐ OPTOMETRY
4. ☐ OSTEOPATHY
5. ☐ PHARMACY
6. ☐ PODIATRY
7. ☐ PUBLIC HEALTH
8. ☐ VETERINARY MEDICINE
9. ☐ COMBINATION SCHOOL

SAMPLE

OWNED FACILITIES

		TOTAL OF COLUMNS B THROUGH J	CLASSROOM-TYPE INSTRUCTIONAL SPACE	CLASS LABORATORIES	REASEARCH AND RESEARCH TRAINING SPACE	LIBRARY SPACE	AUDITORIUMS	FACULTY OFFICES	ADMINISTRATIVE OFFICES AND AREAS	ANIMAL FACILITIES	OTHER SP
		A	B	C	D	E	F	G	H	I	J
①	NET ASSIGNABLE SQUARE FEET (NASF)										
②	NASF OF LINE 1 WHICH ARE IN SATISFACTORY CONDITION										
3	CHECK (✓) EACH TYPE OF SPACE CONSTRUCTED OR REMODELED WITH HPEA ASSISTANCE		☐	☐	☐	☐	☐	☐	☐	☐	☐
④	NUMBER OF STUDENT STATIONS ON LINE 1	▨						▨	▨	▨	▨
⑤	NUMBER OF ROOMS REPRESENTED ON LINE 1	▨				▨			▨	▨	▨

⑥ HOW MANY OF THE NASF IN ITEM 1 COLUMN A WERE CONSTRUCTED OR REMODELED WITH HPEA AID ....

CONSTR'D.	REMOD'LD

RENTED, LEASED OR OTHER FACILITIES

		A	B	C	D	E	F	G	H	I	J
⑦	NET ASSIGNABLE SQUARE FEET										
⑧	NASF OF LINE 7 WHICH ARE IN SATISFACTORY CONDITION										
⑨	NUMBER OF STUDENT STATIONS ON LINE 7	▨						▨	▨	▨	▨
⑩	NUMBER OF ROOMS REPRESENTED ON LINE 7	▨				▨			▨	▨	▨

11a. TOTAL NASF NOT SATISFACTORY (=SUM OF ITEMS 1 AND 7, COLUMN A MINUS SUM OF ITEMS 2 AND 8, COL. A) .... ☐

11b. IF ITEM 11a. IS NOT ZERO, HOW MANY NASF OF THIS UNSATISFACTORY SPACE COULD BE MADE SATISFACTORY THROUGH REMODELING.................... ☐

JOINT-USE FACILITIES CURRENTLY PROVIDED TO HEALTH PROFESSIONS SCHOOLS

(EXCLUDE SPACE IN HOSPITALS AND CLINICS)

UCTIONS: REPORT ALL SPACE USED BY THE PARENT INSTITUTION'S HEALTH PROFESSIONS SCHOOLS, BUT NOT ALLOCATED TO ANY ONE OF THEM.

ONS SCHOOLS USING

ATHY 7. ☐ PUBLIC HEALTH

CY 8. ☐ VETERINARY MEDICINE

Y 9. ☐ COMBINATION SCHOOL

	TOTAL OF COLUMNS B THROUGH J A	CLASSROOM-TYPE INSTRUCTIONAL SPACE B	CLASS LABORATORIES C	REASEARCH AND RESEARCH TRAINING SPACE D	LIBRARY SPACE E	AUDITORIUMS F	FACULTY OFFICES G	ADMINISTRATIVE OFFICES AND AREAS H	ANIMAL FACILITIES I	OTHER SPACE J
ET (NASF)										
E CONSTRUCTED SISTANCE		☐	☐	☐	☐	☐	☐	☐	☐	☐
NS ON LINE 1	▨						▨	▨	▨	▨
ITED ON LINE 1	▨				▨			▨	▨	▨

CHECK (√) HERE ☐ IF NO OWNED FACILITIES ARE MADE AVAILABLE AS JOINT-USE SPACE

EM 1 COLUMN A
ODELED WITH HPEA AID ....

CONSTR'D.	REMOD'LD.

ES

	A	B	C	D	E	F	G	H	I	J
ET										
S ON LINE 7	▨						▨	▨	▨	▨
TED ON LINE 7	▨				▨			▨	▨	▨

CHECK (√) HERE ☐ IF NO RENTED, LEASED OR OTHER FACILITIES ARE MADE AVAILABLE AS JOINT-USE SPACE

Y (=SUM OF ITEMS 1 AND 7, COLUMN A MINUS SUM OF ITEMS 2 AND 8, COL. A).......... ☐

MANY NASF OF THIS UNSATISFACTORY SPACE
Y THROUGH REMODELING.......... ☐

SAMPLE

IMPAC CODE ______________________

ONGOING AND FULLY AUTHORIZED CONSTRUCTION AND REMODELING OF JOINT-USE FACILITIES

(EXCLUDE HOSPITALS AND CLINICS)

a. REPORT ALL CONSTRUCTION AND REMODELING OF FACILITIES WHICH WILL NOT BE ALLOCATED TO ANY HEALTH PROFESSIONS SCHOOL, BUT WHICH WILL BE USED BY AT LEAST ONE SUCH SCHOOL UPON COMPLETION.

b. ☐ IF RESPONDENT HAS NO CONSTRUCTION OR REMODELING TO REPORT, CHECK THE BOX TO THE LEFT AND PROCEED TO PAGE 4

Ⓐ OVERVIEW	a. COST (Thousands)	b. GSF	c. NSF	d. NSF OF HPEA ASSIST.
1. ALL JOINT-USE SPACE BEING (OR TO BE) REMODELED	$	▨		
2. OWNED NEW CONSTRUCTION OF JOINT-USE SPACE	$			

Ⓑ APPORTION GSF OF OWNED NEW CONSTRUCTION (ITEM A,2 Column b) AS TO PURPOSE:

1. EXPANDING ENROLLMENT ______ 2. RELIEF OF OVERCROWDING ______ 3. REPLACING OBSOLETE SPACE ______ 4. OTHER PURPOSES ______

C. CONSTRUCTION AND REMODELING COSTS AND SOURCES OF FUNDS

1. SUM OF COSTS REPORTED IN ITEMS A1 AND A2 .... $

② HOW MUCH OF THE TOTAL REPORTED IN ITEM C1. IS FROM:

a. INSTITUTION'S PRIVATE FUNDS $
b. INSTITUTION'S BORROWING $
c. STATE OR LOCAL FUNDS $
d. FOUNDATIONS AND PHILANTHROPIES $
e. HPEA CONSTRUCTION GRANTS $
f. CHMTA LOAN GUARANTEES $
g. CHMTA INTEREST SUBSIDIES $
h. OTHER FEDERAL SOURCES $
i. OTHER $

SAMPLE

D. ONGOING AND FULLY AUTHORIZED CONSTRUCTION AND REMODELING:

	TOTAL OF COLUMNS B–J A	CLASSROOM TYPE INSTRUCTIONAL SPACE B	CLASS LABORATORIES C	RESEARCH & RESEARCH TRAINING SPACE D	LIBRARY SPACE E	AUDITORIUMS F	FACULTY OFFICES G	ADMINISTRATIVE OFFICES AND AREAS H	ANIMAL FACILITIES I	OTHER SPACE J
① NASF OF OWNED SPACE BEING (OR TO BE) REMODELED										
2 NASF OF OWNED NEW CONSTRUCTION										
3. CHECK (✓) EACH TYPE OF SPACE CONSTRUCTED OR REMODELED WITH HPEA ASSISTANCE		☐	☐	☐	☐	☐	☐	☐	☐	☐

Ⓔ REVISED INVENTORY OF JOINT-USE SPACE AFTER ONGOING (OR FULLY AUTHORIZED) CONSTRUCTION AND REMODELING ARE COMPLETED:

	A	B	C	D	E	F	G	H	I	J
1. NASF OF OWNED SPACE										
2. NASF OF RENTED, LEASED OR OTHER SPACE										
3. NUMBER OF STUDENT STATIONS REPRESENTED ON LINES E.1 and E.2	▨						▨	▨	▨	▨
4. NUMBER OF ROOMS REPRESENTED ON LINES E.1 and E.2	▨				▨			▨	▨	▨

F. INDICATE THE CALENDAR YEAR ALL ONGOING AND FULLY AUTHORIZED CONSTRUCTION AND REMODELING ARE EXPECTED TO BE COMPLETED: ______________

IMPAC CODE

Ⓐ AUDIOVISUAL (A/V) TEACHING SUPPORT FACILITIES MADE AVAILABLE TO HEALTH PROFESSIONS SCHOOLS

1. NASF OF AUDIOVISUAL AND TV PRODUCTION FACILITIES .... ☐

	CLASS-ROOMS	CLASS LABS	A TO
2. NUMBER OF ROOMS WITH BUILT-IN TV CAPABILITIES			

3. NUMBER OF COMPUTER TERMINALS FOR COMPUTER AIDED INSTRUCTION.. ☐

	LIBRARY	CLASS LABS	OT
4. NUMBER OF STUDY CARRELS AVAILABLE FOR A/V USE			

5. NASF IN ALL SELF-INSTRUCTIONAL LABORATORIES OR INDIVIDUAL STUDY AREAS EQUIPPED FOR A/V MEDIA USE.. ☐

Ⓑ FUTURE CONSTRUCTION AND MAJOR REMODELING OF JOINT-USE FACILITIES PLANNED FOR COMPLETION BY 1983

SAMPLE

(OVER AND ABOVE ONGOING CONSTRUCTION AND REMODELING REPORTED ON PAGE 3)
(EXCLUDE HOSPITALS AND CLINICS)

REPORT ONLY THAT ANTICIPATED CONSTRUCTION OR REMODELING OF FACILITIES WHICH WILL NOT BE ALLOCATED TO ANY HEALTH PROFESSIONS SCHOOL, BUT WHICH WILL BE MADE AVAILABLE FOR USE BY ONE OR MORE HEALTH PROFESSIONS SCHOOLS.

CHECK (✓) BOX a. or b. AND ENTER THE YEAR:

a. ☐ THE ESTIMATES ON THIS PAGE ARE BASED ON A DEVELOPMENT OR MASTER PLAN EXTENDING THROUGH CALENDAR YEAR ____________.

b. ☐ THE ESTIMATES ON THIS PAGE ARE BASED ON A DEVELOPMENT OR MASTER PLAN WHICH IS IN PROCESS OF BEING FORMULATED EXTENDING THROUGH CALENDAR YEAR ____________.

1. NASF OF OWNED NEW CONSTRUCTION .... ☐
2. NASF OF MAJOR REMODELING .... ☐
③ APPORTION "NEW CONSTRUCTION" (ITEM 1) AS TO ITS PURPOSE: ☐
   a. NASF FOR EXPANDING ENROLLMENT .... ☐
   b. NASF FOR RELIEF OF OVERCROWDING.. ☐
   c. NASF TO REPLACE OBSOLETE FACILITIES .... ☐
   d. NASF FOR OTHER PURPOSES.. ☐
4. TOTAL NASF OF JOINT-USE FACILITIES ANTICIPATED TO BE AVAILABLE TO HEALTH PROFESSIONS SCHOOLS IN 1983.. ☐

IMPAC CODE ______________________

(A/V) TEACHING SUPPORT FACILITIES MADE AVAILABLE TO HEALTH PROFESSIONS SCHOOLS

ISUAL AND TV PRODUCTION FACILITIES .... ☐

	CLASS ROOMS	CLASS LABS	AUDI-TORIUMS
MS WITH BUILT-IN TV CAPABILITIES			

PUTER TERMINALS FOR COMPUTER AIDED INSTRUCTION........ ☐

	LIBRARY	CLASS LABS	OTHER
DY CARRELS AVAILABLE FOR A/V USE			

F-INSTRUCTIONAL LABORATORIES OR INDIVIDUAL STUDY
FOR A/V MEDIA USE........ ☐

FUTURE CONSTRUCTION AND MAJOR REMODELING OF JOINT-USE FACILITIES PLANNED FOR COMPLETION BY 1983

SAMPLE

(OVER AND ABOVE ONGOING CONSTRUCTION AND REMODELING REPORTED ON PAGE 3)
(EXCLUDE HOSPITALS AND CLINICS)

REPORT ONLY THAT ANTICIPATED CONSTRUCTION OR REMODELING OF FACILITIES WHICH WILL NOT BE ALLOCATED TO ANY HEALTH PROFESSIONS SCHOOL, BUT WHICH WILL BE MADE AVAILABLE FOR USE BY ONE OR MORE HEALTH PROFESSIONS SCHOOLS.

CHECK (✓) BOX a. or b. AND ENTER THE YEAR.

MATES ON THIS PAGE ARE BASED
OPMENT OR MASTER PLAN
THROUGH CALENDAR YEAR __________.

b. ☐ THE ESTIMATES ON THIS PAGE ARE BASED
ON A DEVELOPMENT OR MASTER PLAN WHICH
IS IN PROCESS OF BEING FORMULATED
EXTENDING THROUGH CALENDAR YEAR __________.

ED NEW CONSTRUCTION .... ☐

OR REMODELING .... ☐

NEW CONSTRUCTION" (ITEM 1) AS TO ITS PURPOSE: ☐

F FOR EXPANDING ENROLLMENT .... ☐

F FOR RELIEF OF OVERCROWDING........ ☐

F TO REPLACE OBSOLETE FACILITIES .... ☐

F FOR OTHER PURPOSES........ ☐

OF JOINT-USE FACILITIES ANTICIPATED TO BE AVAILABLE
ROFESSIONS SCHOOLS IN 1983........ ☐

IMPAC CODE ____________________

UNIVERSITY OWNED HOSPITAL(S) AND CLINIC(S)

CHECK (✓) THE HEALTH PROFESSIONS SCHOOLS USING THIS HOSPITAL OR CLINIC

a. ☐ DENTISTRY
b. ☐ MEDICINE
c. ☐ OPTOMETRY
d. ☐ OSTEOPATHY
e. ☐ PHARMACY
f. ☐ PODIATRY
g. ☐ PUBLIC HEALTH
h. ☐ VETERINARY MEDICINE
i. ☐ COMBINATION SCHOOL

NOTE: IF ONLY ONE OF THE ABOVE BOXES WAS CHECKED, DO NOT COMPLETE THIS PAGE.

SECTION A

	NAME OF HOSPITAL OR CLINIC		ADDRESS	
1.				
2.	TYPE OF HOSPITAL (Check (✓) All Applicable Boxes)	☐ GENERAL	☐ SPECIAL (Specify) (____________)	☐ OTHER (Specify) (____________)
③	LOCALE (Check (✓) One)	☐ INNER CITY ☐ OUTER CITY	☐ SUBURBAN	☐ RURAL

④ TOTAL GSF (Gross Square Feet) ☐

⑤ GSF CONSTRUCTED WITH HPEA ASSISTANCE ☐

⑥ NSF (Net Square Feet) REMODELED WITH HPEA ASSISTANCE ☐

INPATIENT FACILITIES:

		NUMBER	AVERAGE DAILY PATIENT LOAD (ADPL)
⑦	BEDS USED FOR STUDENT INSTRUCTION	a	b

AMBULATORY FACILITIES:

		NUMBER OF ROOMS	TOTAL PATIENT STATIONS
⑧	EXAMINING AND TREATMENT ROOMS USED FOR STUDENT INSTRUCTION	a	b
9.	NUMBER OF OUTPATIENT VISITS PER YEAR APPLIED TO STUDENT INSTRUCTION		

SAMPLE

NON PATIENT-CARE FACILITIES AVAILABLE FOR ACADEMIC PURPOSES

		TOTAL OF COLUMNS B-J	CLASSROOM-TYPE INSTRUCTIONAL SPACE	CLASS LABORATORIES	RESEARCH AND RESEARCH TRAINING SPACE	LIBRARY SPACE	AUDITORIUMS	FACULTY OFFICES	ADMINISTRATIVE OFFICES AND AREAS	ANIMAL FACILITIES	OTHER SPACE
		A	B	C	D	E	F	G	H	I	J
10.	NASF (Net Assignable Square Feet)										
11.	CHECK (✓) EACH TYPE OF SPACE CONSTR'D. OR REMODELED WITH HPEA ASSISTANCE		☐	☐	☐	☐	☐	☐	☐	☐	☐
⑫	NUMBER OF ROOMS ON LINE 10	▨				▨			▨	▨	▨

FACILITIES CURRENTLY NEEDED

		A	B	C	D	E	F	G	H	I	J
⑬	ADDITIONAL NASF CURRENTLY NEEDED TO ACCOMMODATE PRESENT ENROLLMENT										
⑭	FOR EACH TYPE OF SPACE NEEDED, USE LETTER CODE TO INDICATE THE REASON	▨									
15.	WHAT PORTION (in NASF) of EACH ENTRY IN ITEM 13 is ATTRIBUTABLE to OVERCROWDING										

		SATISFACTORY FOR PROGRAM PURPOSE	IN NEED OF REMODELING	IN NEED OF REPLACEMENT
⑯	APPORTION NASF OF LINE 10, COLUMN A BY CONDITION	a.	b.	c.

CONTINUED ON BACK OF PAGE

SECTION B

ONGOING AND FULLY AUTHORIZED CONSTRUCTION AND REMODELING

☐ IF RESPONDENT HAS NO CONSTRUCTION OR REMODELING TO REPORT, CHECK (✓) THE BOX TO THE LEFT AND PROCEED TO SEC. C.

①OVERVIEW

	1 COST (Thousands)	2 GSF	3 NSF	4 NSF of HPEA ASSIST.
a. OWNED SPACE BEING (OR TO BE) REMODELED	$	▨		
b. OWNED NEW CONSTRUCTION	$			

②PATIENT CARE FACILITIES BEING ADDED

a. NUMBER OF ADDITIONAL BEDS TO BECOME AVAILABLE FOR STUDENT USE ☐

b. NUMBER OF PATIENT STATIONS IN ADDITIONAL EXAMINING AND TREATMENT ROOMS TO BE USED BY STUDENTS ☐

③APPORTION GSF OF OWNED NEW CONSTRUCTION (ITEM 1b, Column 2) AS TO PURPOSE

a. EXPANDING ENROLLMENT ☐ b. RELIEF OF OVERCROWDING ☐ c. REPLACING OBSOLETE SPACE ☐ d. OTHER PURPOSES ☐

4. CONSTRUCTION AND REMODELING COSTS AND SOURCES OF FUNDS

a. SUM OF COSTS REPORTED IN ITEMS 1a and 1b ABOVE $

b. HOW MUCH OF THE TOTAL REPORTED IN ITEM 4a. IS FROM:

(1) INSTITUTION'S PRIVATE FUNDS	$	(4) FOUNDATIONS AND PHILANTHROPIES	$	(7) CHMTA INTEREST SUBSIDIES	$
(2) INSTITUTION'S BORROWING	$	(5) HPEA CONSTRUCTION GRANTS	$	(8) OTHER FEDERAL SOURCES	$
(3) STATE OR LOCAL FUNDS	$	(6) CHMTA LOAN GUARANTEES	$	(9) OTHER	$

HPEA AID; REVISED INVENTORY; AND POST-CONSTRUCTION NEEDS:

	A TOTAL OF COLUMNS B–J	B CLASSROOM TYPE INSTRUCTIONAL SPACE	C CLASS LABORATORIES	D RESEARCH & RESEARCH TRAINING SPACE	E LIBRARY SPACE	F AUDITORIUMS	G FACULTY OFFICES	H ADMINISTRATIVE OFFICES AND AREAS	I ANIMAL FACILITIES	J OTHER SPACE
5. CHECK (✓) EACH TYPE OF SPACE CONSTRUCTED OR REMODELED WITH HPEA ASSISTANCE		☐	☐	☐	☐	☐	☐	☐	☐	☐
⑥ REVISED INVENTORY OF NASF AVAILABLE FOR RESPONDENT'S USE AFTER CONSTRUCTION AND REMODELING ARE COMPLETE										
⑦ NASF STILL NEEDED AFTER COMPLETION OF REPORTED CONSTRUCTION AND REMODELING										
⑧ FOR EACH TYPE OF SPACE NEEDED, USE LETTER CODE TO INDICATE THE REASON	▨									

9. INDICATE THE CALENDAR YEAR ALL ONGOING AND FULLY AUTHORIZED CONSTRUCTION AND REMODELING ARE EXPECTED TO BE COMPLETED ________

SAMPLE

SECTION C

FUTURE CONSTRUCTION AND MAJOR REMODELING PLANNED FOR COMPLETION BY 1983

(OVER AND ABOVE ONGOING CONSTRUCTION AND REMODELING REPORTED IN SECTION B)

①OVERVIEW

a. NSF TO BE REMODELED ☐

b. GSF OF NEW CONSTRUCTION ☐

c. TOTAL NASF ANTICIPATED TO BE AVAILABLE FOR JOINT-USE BY 1983 ☐

②APPORTION "GSF OF NEW CONSTRUCTION" (ITEM C.1.b.) AS TO ITS PURPOSE:

a. GSF FOR EXPANDING ENROLLMENT ☐

b. GSF FOR RELIEF OF OVERCROWDING ☐

c. GSF TO REPLACE OBSOLETE FACILITIES ☐

d. GSF FOR OTHER PURPOSES ☐

GENERAL COMMENTS

IMPAC CODE ____________

RESPONDENT MAY USE THIS SECTION TO PROVIDE ANY COMMENT OR TO ELUCIDATE HIS RESPONSE TO ANY ITEM IN THE QUESTIONNAIRE. (THE TWO COLUMN HEADINGS ARE PROVIDED TO FACILITATE RESPONDENT'S REFERENCE TO SPECIFIC PAGES AND ITEMS.)

PAGE NUMBER	ITEM NUMBER	
----	----	
----	----	
----	----	
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----	----	
----	----	
----	----	
----	----	
----	----	
----	----	

SAMPLE

THANK YOU FOR DEVOTING THE TIME AND MANPOWER TO COMPLETE THIS QUESTIONNAIRE.
A COPY OF THE PRINTED REPORT WILL BE SENT TO YOU AT THE COMPLETION OF THIS SURVEY.

APPENDIX D

Health Professions School Associations, Federal Agencies, and Other Parties Contacted Regarding Instrument Design

1. American Association of Dental Schools
2. Council on Dental Education, American Dental Association
3. Association of American Medical Colleges
4. Council on Medical Education, American Medical Association
5. Association of Schools and Colleges of Optometry
6. American Association of Colleges of Osteopathic Medicine
7. American Osteopathic Association
8. American Association of Colleges of Pharmacy
9. American Association of Colleges of Podiatric Medicine
10. Association of Schools of Public Health, Inc.
11. Association of American Veterinary Medical Colleges
12. Council of Teaching Hospitals, Association of American Medical Colleges
13. Federation of Associations of Schools of the Health Professions
14. Various Higher Education State Commissions
15. American Council on Education
16. Western Interstate Commission for Higher Education (National Center for Higher Education Management Systems)

APPENDIX E

PRETEST MEETING GOALS

For each respondent, the pretest interview attempts to provide information of several general types:

Mechanics of Response

a) What was the magnitude of the work with respect to the level of personnel involvement and the time demanded?

b) How were the data gathered and from what sources?

c) Is the overall design of the questionnaire and accompanying documentation difficult to use or understand (e.g., frequent cross-referencing among questionnaire, instructions, definitions)?

Shortcomings

a) Does the survey fail to address any major aspects of facilities availability or usage with respect to health profession schools in general, schools of this particular type (e.g., dentistry), this particular school, or differences between schools.

Content

a) The "face validity" of the survey will be addressed. Has the questionnaire been designed and worded in such a way that the respondent can clearly sense purpose, utility and importance, thus developing an atmosphere of credibility, and encouraging interest and meaningful participation? Or does it contain ambiguities, insufficient or extraneous instructions or questions which detract from the face validity?

b) Has the respondent properly understood and interpreted the questions and instructions or have inaccurate responses resulted from poorly designed questions.

c) Specific questions concerning the respondents' actual data will be determined from pre-interview (when possible) analysis of the completed form. These questions will usually involve obvious or apparent violations or misinterpretations of instructions (i.e., how can the instructions be clarified, expanded, etc.?).

The following pages present a specific list of suspected areas of probable difficulties in understanding or interpretation which will be discussed with each respondent.

Page 2A, 2B

a) How were type of NASF accumulated (room-by-room synthesis, etc.)?

b) In what form is the data from which such figures were derived?

c) Are the "conditions of space" mutually exclusive?

d) Was "portion of space. . ." (item 3) interpreted correctly?

e) How were student station data and "number of rooms" data obtained?

f) What are "other" rooms? (i.e., are we missing some important type of space?)

Page 3

a) Discuss "room hours used per year" question. Can instructions be improved or is there some better way (e.g., No. of students x avg. No. of contact hours)?

b) How was "number of students" data (items 4-7) obtained?

Page 5

a) How is square footage construction and remodeling data obtained?

b) How was the estimated inventory (items 5-8) obtained and were any of these questions unreasonable?

c) What rationales were behind the breakdown provided in questions 9-12?

d) Is the source of funds information available at the individual school level?

Page 6A

a) How was data concerning patient stations and visits available to respondents' students segregated from the aggregate hospital/clinic total?

b) How many beds do they think is necessary?

Page 7

Same questions as on page 5.

Page 8

a) Interpretation of item B (e.g., anything in hospital setting is clinical).

b) How were animal facilities apportioned?

c) Should diagnostic animal rooms be included?

Page 9

a) Were instructions for columns B, D, and F followed properly?

Page 10A-B

a) How was data in items 1-7 obtained?

b) What was the basis for these estimates?

c) How accurate will they probably be?

Page 11

a) How was this data estimated?

Page 12

Same questions as pages 5 and 7.

Page 13

a) Interpretation of support staff.

Parent Form

a) Has definition of "allocated" been properly interpreted?

b) Can the parent provide all the joint-use data - including that offered by the college of Biological Sciences?

c) Can sources of funds be reported separately from those of HP funds?

APPENDIX F

FACILITIES SURVEY NONRESPONSE QUESTIONS

NONCLINICAL*

○ SCHOOL CODE (EXCLUDE "H" OR "P") 1 ☐☐☐ 3

○ TYPE OF SCHOOL 4 ☐☐☐ 6

○ NUMBER OF STUDENTS (H-P GRAD# + H-P UNDERGRAD#) 7 ☐☐☐☐ 10

GSF CONTROLLED (ALLOCATED#) EXCLUDING FREESTANDING# HOSPITALS 11 ☐☐☐☐ 14

% SATISFACTORY# GSF ☐ % 15 ☐☐☐☐ 18

% OF GSF WHICH WAS HPEA/CHMTA FUNDED ☐ % 19 ☐☐☐☐ 22

○ ONGOING CONSTRUCTION# OF SPACE TO BE CONTROLLED: ☐ YES=1 ☐ NO=2 23 ☐ 23

TOTAL COST ($) 24 ☐☐☐☐☐ 28

HPEA/CHMTA FUNDS ($) 29 ☐☐☐☐☐ 33

GSF BEING BUILT 34 ☐☐☐☐ 37

NSF BEING REMODELED 38 ☐☐☐☐ 41

GSF NEEDED (AFTER COMPLETION OF CONSTRUCTION, IF ANY) 42 ☐☐☐☐ 45

* BUT INCLUDE CLINICAL FACILITIES LOCATED IN INSTRUCTIONAL BUILDINGS

(STRUCTURALLY) FREESTANDING HOSPITALS/CLINICS

GSF AVAILABLE FOR USE FOR STUDENT INSTRUCTION 46 ☐☐☐☐ 49

% GSF SATISFACTORY ☐ % 50 ☐☐☐☐ 53

% OF GSF WHICH WAS HPEA/CHMTA FUNDED ☐ % 54 ☐☐☐☐ 57

○ ONGOING CONSTRUCTION OF CLINICAL FACILITIES ☐ YES=1 ☐ NO=2 58 ☐ 58

TOTAL COST ($) 59 ☐☐☐☐☐ 63

HPEA/CHMTA FUNDS ($) 64 ☐☐☐☐☐ 68

GSF BEING BUILT 69 ☐☐☐☐ 72

NSF BEING REMODELED 73

GSF NEEDED (AFTER COMPLETION OF CONSTRUCTION, IF ANY) 77 ☐☐☐ 80

# CAREFULLY REVIEW DEFINITIONS PRIOR TO CAMPAIGN

APPENDIX G

THE CONCEPTS UNDERLYING THE COMPUTATIONAL METHODS FOR ASSESSING ROOM AND STATION UTILIZATION

The obvious sensitivity of facilities utilization data warrants a detailed discussion of the manner in which this assessment is made in the report.

There are a variety of methods for gaining insight into the degree to which educational facilities are being utilized. Measures range from simple ratios of net assignable square footage per student and per student station, to complex computations of room and student station occupancy. The former (ratio-type utilization measures) are easily computed, ordinarily self-explanatory, and provide information on the resources available per student as well as giving some indication on a relative basis, of the effectiveness of space usage. However, the ratios lack an important dimension in that they cannot, in the absolute, indicate the extent to which a school's resources are being utilized by the students. Inability to determine this portion implies inability to draw conclusions regarding the match between current (or projected) enrollment levels and the availability of educational resources for accommodating such levels.

Room and student station utilization (occupancy) are more absolute measures than ratios, since they attempt to establish the "portion of available resources used" rather than "portion of resources available per unit of educational activity". Use of the term "absolute" should not be construed to mean that we attempt to apply utilization figures in an evaluative sense: rather, it implies that room and station occupancy assessment allow the establishment of the theoretical upper limit upon the amount of educational activity which could take place in a given type of space, assuming that there were no other constraints upon such activity. Such constraints might be the availability of trained faculty and equipment, the ability to schedule class meetings optimally, and the existence of adequate physical facilities of other types. Since these constraints will always exist, it is not possible to determine whether a particular utilization figure is good or bad without complete knowledge of the context in which it is found. Nevertheless, the establishment of even theoretical limits--and the resulting ability to compare schools and professions as to the respective portions of their facilities being utilized--makes such figures valuable. The derivations of these two measures are detailed below.

1. Room Utilization

As stated above, an absolute utilization measure is based on the concept of "portion of available resources utilized". For room utilization, the unit of measurement of the available (or utilized) resource is taken to be the "room hour", where "one available room hour" means that a room is available for educational purposes for a period of one hour. One room hour utilized means that at least one student, involved in an academic activity, occupied a room for one hour. (For completeness, it should be noted that the choice of one hour as a base measurement is a convenience rather than a requirement of the method.) Room availability over a specified time period, is the product of the number of rooms and the number of hours that the rooms are available for academic purposes. Room use during the same time period is the total number of hours during which the rooms were occupied by students engaged in academic pursuits. The ratio of these two figures (the "room hours used" in the numerator and "room hours available" in the denominator) represents the percent of room utilization. In the general case, one in which a number of rooms are available for differing numbers of hours per unit time, the room utilization figure would be computed by evaluating the following fraction:

(1) the numerator would be the sum, over all rooms of a given type (e.g., classrooms), of the number of hours each was occupied during a given period such as a year;

(2) the denominator would be the sum, over all rooms of a given type, of the number of hours each was available during the same period as used in developing the numerator.

Classrooms and class laboratories were the only room types studied to determine the percentage of room utilization. The actual figures reported were obtained as follows, in which we show the approach for determining classroom utilization:

(a) Resources used--the "numerator".

From page 6, item D of the survey instrument (HPSQ) we obtain the total number of room hours utilized by respondents' students in respondents' controlled (allocated) facilities (see line 6, column B). Since it is our intent to assess the total loading on this space, we must add to this numerator the loading of respondents' controlled facilities engendered by students other than those of respondent. The latter information is found on page 3 of the instrument, column C, from which we take the total hours used over all rooms (line 3).

(b) Resources available--the "denominator".

Using 2,080 hours as an estimate of "length of academic year" (52 weeks x 40 hours), we multiply 2,080 by the number of classrooms controlled by respondent (page 6, item D, column A, line 6). Although it was originally intended to use data from page 7A to compute the length of the academic year (number of weeks per year times number of hours per week), it was felt that 2,080 hours would more accurately reflect and support contrast and comparison among schools, and would better reflect the total availability of the space.

Example:

School A has 10 classrooms under its day-to-day control, 5 of 1-16 stations and 5 of 17-32 stations. The smaller rooms are each used 800 hours per year; while the larger ones are used 600 hours per year. One of the rooms is used 400 hours per year by students of another school.

$$U\% = ((5 \times 800 + 5 \times 600 + 400)/(2{,}080 \times 10)) \times 100\% = 35.6\%$$

2. Student Station Utilization (Occupancy)

A more complex indicator of space resources utilization is student station utilization. Student station utilization as defined in this report, is the percentage of time (and intensity to which) classroom and class laboratory "student stations" are occupied by students for academic purposes. The unit of measurement of the resource is the "station-hour" (one student work station available for one hour). Thus, if a classroom with thirty desks is occupied by twenty students for a given hour of the day, we say that for that hour, the station utilization of that room was about sixty-seven percent (20/30).

For an individual institution, it is often useful to ascertain student station utilization on a room-by-room basis for each day of the week. In this case, the period of time would be (say) 8 hours; and the utilization percentage associated with each room would be obtained by finding the weighted number of stations occupied during that period. Thus, if the number of students in our thirty-station classroom were observed to be 20, 20, 20, 20, 10, 10, 10, 10 during the day's eight successive hours, the day's utilization percentage would be computed as:

$$\frac{20 + 20 + 20 + 20 + 10 + 10 + 10 + 10}{30 + 30 + 30 + 30 + 30 + 30 + 30 + 30} = 120/240 = 50\%$$

Similar figures developed for each room-type would give valuable insight into the problems and potentialities associated with class scheduling, the relief of overcrowding, and the ability to vary institutional enrollment.

As our level of aggregation becomes higher (if we, for example, were to compute a single number representing utilization of all rooms of a given type over a year's time), the operational value of the information would be smaller. However, it would be a better, albeit global, measure of the overall degree to which an institution's available educational resources are being "tapped". As a national survey, our efforts were, to be practical, confined to more global measures. Moreover, we concentrated upon only two room-types ("classroom-type instructional space" and "class laboratories") since at our current state of educational technology, these kinds of rooms still represent the foundations of the facilities-associated educational process. Thus, the figures produced for the purposes of our reports are averages of averages--even for the individual school. For example, our classroom station utilization figures are, conceptually, the equivalent of those which would be obtained were the number of students in each classroom to be counted each hour of each day in the year, and the resulting tally divided by the sum of the hourly sums of the available stations in all rooms.

Having conceptualized the definition of the basic resource related to student station utilization, its unit of measurement, and the manner in which the resource is expended (viz., a student works at an available station for some period of time), we are confronted with the problem of measuring its availability and use through answers to a mail survey. Respondents could not be expected to obtain room-by-room, hour-by-hour headcounts of students in each classroom and class laboratory over a year's time for our survey purposes. We thus developed an approach which would give a reliable approximation to the "true" utilization proportion, would not require extensive institutional research, and would likely result in unbiased estimates.

In general, the number of available student stations in a given institution does not change from hour to hour or from day to day. Thus, the available resource--some number of student stations available for some time period--may be determined by simply counting the number of student stations and multiplying this result by the number of hours that they are available. (The assumption here is that each station is available for the same number of hours--2,080 as in the case of room utilization.) For classroom student station utilization, from pages 2A and 2B of the questionnaire we add the two figures for "number of student stations" (see lines 6 and 4 on the respective pages' column B). By multiplying the number of stations by the assumed number of available hours per year (2,080), we obtain our initial estimate of the total station-hour resources available. The amount of this resource that is used is obtained by computing the cross-product of (1) FTE enrollment by level and (2) classroom hours per student by level. On page 7A, we request (for classrooms in column A) the "number of hours spent by a typical full-time student" at each level (of academic attainment). On page 10 (column B) we have a by-level breakdown (lines 2-8) of the number of full-time equivalent students enrolled. If we multiply the number of first year FTE's by the number of hours spent in the classroom by a typical full-time, first year student, we find the number of student contact hours spent by first-year students in the classroom. Under the straightforward assumption of one student to a student station, this value represents the number of station hours used (per year) by said students. Performing a like computation for the second year students and for each succeeding level--and summing the results--yields the total station-hour resources used by the health professional undergraduates and graduates (exclusive of interns and residents). The ratio of the latter value to the computed "resources available" is considered the "uncorrected" station utilization of a given institution (or profession, through extension of the logic to all schools in a given profession).

The term "uncorrected" is used above since a large number of the schools in the survey universe include educational programs for such allied academic pursuits as the health technologies, and the like; and many offer educational resources in the spheres of continuing education, graduate and post graduate studies, internships, residencies, and so on. These "other" students impose a loading upon each school's facilities for which we must account. Moreover, the "hours per typical student" data on page 7A includes time spent by respondent's students in joint-use facilities. As such, this time does not represent a loading on respondent's controlled space, but upon the space of others.

The method for collecting the data for computing the "correction factor" was designed into the HPSQ on page 3. Columns C and D of section A are used to determine the number of station-hours used by students of other health profession schools. Pursuing our classroom utilization derivation, line 2, column C (on page 3 section A) divided by line 1 column C gives the average stations per room in rooms used by other than "respondents' students". Multiplying this figure by that reported in line 3 (total number of hours per year over all rooms) gives the number of station hours used by these other students. Since it represents an additional loading on the resources available, it is added to the numerator of the utilization ratio. Obviously, increasing the numerator increases the school's utilization percentage.

On the other hand, for the occasions in which a given school uses the facilities of another school, or of some central administrative organization, the "available base" of resources must be augmented appropriately. This second correction factor is obtained from column A of page 3 in the same manner as the "other" students' loading" correction factor, and is added to the denominator of the utilization ratio.

Example: Student station utilization in classrooms.

School B controls 5 classrooms with 10, 10, 20, 20, and 40 stations, respectively, for a total of 100 student stations. The three large classrooms are used a total of 600 hours per year by School C. School B also utilizes a 60 station classroom (controlled by School D) 400 hours per year. School B has 200 FTE undergraduate students and no graduate students. The FTE enrollment, by level (first year, second year, etc.) is 60, 50, 50, 40. The typical student at each of the 4 levels spends 800, 800, 200, and 200 hours, respectively, in the classroom.

The total available resource (the denominator of the utilization ratio) is given by:

100 stations x 2,080 hours + 60 stations x 400 hours = 232,000 station hours

The resources utilized (the numerator of the ratio) are found as follows:

a) Respondents' student loading:

60 students x 800 station-hours per student + 50 students x 800 station-hours per student + 50 students x 200 station hours per student + 40 students x 200 station-hours per student = 106,000 station hours.

b) Loading engendered by other schools' students:

(20 + 20 + 40)/3 = 26-2/3 stations per room (average) used by other students.

600/3 = 200 room-hours per room (average) used by other students.

3 rooms x 26-2/3 x 200 = 16,000 station-hours used by other students.

106,000 + 16,000 = 122,000 station-hours utilized.

Utilization ratio = (122,000/232,000) x 100% = 52.6%

APPENDIX H

PRETEST INSTITUTIONS

HEALTH PROFESSIONS SCHOOLS

1. Pennsylvania College of Optometry
2. University of Kentucky College of Dentistry
3. Southern School of Pharmacy, Mercer University
4. University of North Carolina School of Medicine
5. Iowa State University College of Veterinary Medicine
6. University of Minnesota Medical School
7. University of Oregon Dental School
8. Baylor College of Dentistry
9. Tufts University Medical School

PARENT INSTITUTIONS

1. University of Kentucky
2. University of North Carolina
3. University of Minnesota

APPENDIX I

Method of Apportioning Multiply-Used Hospitals and Clinics

For cases in which two or more respondents reported using a hospital such that it was not possible to apportion the space, construction dollars, etc. among their respective schools, the following approach was taken.

If:

D_i = the total yearly student contact hours spent by all respondent schools' students in hospital "i"; and

A_{in} = the yearly student contact hours spent by the n^{th} school's students in hospital "i" (such that $D_i = \sum_n A_{in}$); then

$P_{in} = A_{in}/D_i$

where P_{in} = a factor between 0 and 1 representing the n^{th} school's computed portion of any variable of concern in hospital "i" (e.g., construction costs, available space, space to be constructed by 1983).

Since D_i is defined in terms of A_{in}, we need only show how our estimates of A_{in} (student-hour loading of school n on hospital i) were obtained.

Let:

G_{nk} = the reported value of column G, page 7A, line k, (k=1,2,...,7) (the hours spent in inpatient areas by the "k^{th}" level students of school n)

H_{mk} = the reported value of column H, page 7A, line k, (k=1,2,...,7) (hours spent in examining and treatment rooms by the "k^{th}" level students of school n)

$U_{1,i}^{(n)}$ = number of school n's undergraduate students using hospital i's inpatient facilities "at any one time" (page 5A, item 8.a)

$G_{1,i}^{(n)}$ = number of school n's graduate students using hospitals i's inpatient facilities "at any one time" (page 5A, item 8.b)

APPENDIX I (Continued)

$U^{(n)}_{2,i}$ = number of school n's undergraduate students using hospital i's examining and treatment rooms "at any one time" (page 5A, item 11.a)

$G^{(n)}_{2,i}$ = number of school n's graduate students using hospital i's examining and treatment rooms "at any one time" (page 5A, item 11.b)

EF_{nk} = reported value of the sum of columns E and F, page 7A, line k, (k=1,2,...,7) (hours spent in classrooms and labs by the "kth" level students of school n)

$B_{n(k+1)}$ = the reported value of column B, page 10, line k (k=1,2,...,7) (number of current full-time equivalent students at the "kth" level of academic attainment at school n)

Then:

$$\begin{aligned} A_{in} = \Bigg\{ & \left[U^{(n)}_{1,i} \Big/ \sum_i U^{(n)}_{1,i} \right] \left[\sum_{k=1}^{6} \left(B_{n(k+1)}\, G_{nk} \right) \right] \\ & + \left[U^{(n)}_{2,i} \Big/ \sum_i U^{(n)}_{2,i} \right] \left[\sum_{k=1}^{6} \left(B_{n(k+1)}\, H_{nk} \right) \right] \\ & + \left[\left(U^{(n)}_{1,i} + U^{(n)}_{2,i} \right) \Big/ \left(\sum_i \left(U^{(n)}_{1,i} + U^{(n)}_{2,i} \right) \right) \right] \left[\sum_{k=1}^{6} \left(B_{n(k+1)}\, EF_{nk} \right) \right] \\ & + \left[G^{(n)}_{1,i} \Big/ \sum_i G^{(n)}_{1,i} \right] \left[B_{n(8)}\, G_{n8} \right] \\ & + \left[G^{(n)}_{2,i} \Big/ \sum_i G^{(n)}_{2,i} \right] \left[B_{n(8)}\, H_{n8} \right] \\ & + \left[\left(G^{(n)}_{1,i} + G^{(n)}_{2,i} \right) \Big/ \sum_i \left(G^{(n)}_{1,i} + G^{(n)}_{2,i} \right) \right] \left[B_{n(8)}\, EF_{n8} \right] \Bigg\} \end{aligned}$$

In words, the first of the 6 terms is the product of (1) the fraction of respondent n's undergraduate students located in hospital i's inpatient facilities as opposed to other hospitals' inpatient facilities and (2) the total student contact hours spent in inpatient areas by school n's undergraduates. Thus, if school n uses 2 hospitals such that, typically, any 40 of its 100 undergraduates can be found in hospital 1's inpatient areas; and if the 100 undergraduates each spend an average of 1,500 hours in inpatient areas, then of the (100 x 1,500 =) 150,000 contact hours to be spent in a hospital, (40/100 =) 40% of them (i.e., 60,000 contact hours) of loading will fall upon hospital 1. For school "n", terms 2 through 6 represent the following loadings (in contact hours) on hospital i:

Term 2 = the loading (by undergraduates) on ambulatory facilities;

Term 3 = the loading (by undergraduates) on classrooms and class laboratories;

Term 4 = the loading on inpatient areas by graduate students;

Term 5 = the loading on ambulatory facilities by graduate students; and

Term 6 = the loading on classrooms and class laboratories by graduate students.

Having now calculated A_{in} -- the contact hour loading engendered by school n on hospital i, we repeat the computation for each school which reported hospital i. Summing the A_{in} over all values of n (i.e., over all schools using the hospital), we obtain D_i, the total contact hour loading on hospital i.

For school n, we now take the ratio $A_{in}/D_i = P_{in}$ which, as defined, takes values between 0 and 1. Obviously, for a single value of i(for a given hospital) $\sum_n P_{in} = 1$. Since P_{in} represents the portion of hospital i's facilities to be considered available for school n's use, the next step is to multiply all relevant variables (on page 5A, sections A, B, and C) by P_{in} and assign the results to school n for reporting purposes. In the procedure actually followed, all variables were apportioned except for the (total) Gross Square Footage of the hospital, its number of beds and examining and treatment rooms, and its yearly number of outpatient visits.

APPENDIX J

SELECTED DATA FROM INDIVIDUAL SCHOOLS

A. ORGANIZATION OF THE TABLES

The following pages contain a sampling of the actual information gathered from each respondent. The fifty-six tables are organized into seven major sets with each major set representing a topical area (e.g., "The 1983 Look-Ahead") which is repeated for each of the eight professions surveyed. As will be seen, all columns in these tables are numbered. At the end of each of the seven major sets, the footnotes relating to particular columns have been numbered in a corresponding manner.

B. INTERPRETING A TABLE

The topical area covered by a table is given by the centered title at the top of the page. The profession to which the table applies is printed at the upper left. Following the column headings, the next five lines in the table give overall statistics, for the profession involved, on each measure defined in a column heading. Thus:

> TOTAL is either the arithmetic sum or the population value of the measure specified by a given column heading.
>
> NUMBER OF SCHOOLS is the number for whom we could validly compute the measure specified.
>
> MEAN is the average value of the measure specified (i.e., the sum of the computed values divided by the number of schools).
>
> HIGH is the highest observed value of the measure.
>
> LOW is the lowest observed value of the measure.

To preserve confidentiality of individual responses, each school has been assigned a three-digit code. These codes are listed at the extreme left of the body of each printed table. Information for an individual school is obtained by reading across that school's row of the table.

At the bottom of each table, and for each column therein, there may appear a vertical list of three-digit numbers. The latter are the codes of schools for which the column measure could not validly be computed.

TABLE J.1

CONTROLLED NONCLINICAL INSTRUCTION FACILITIES --FALL, 1973

DENTISTRY

	OWNED AND CONTROLLED GROSS SQUARE FOOTAGE (000) (1)	CONTROLLED NASF (000) IN TOTAL (2)	CONTROLLED NASF EXCL. "ON-SITE PATIENT CARE" AND "OTHER" (3)	PERCENT OF NASF CONSIDERED SATIS-FACTORY (4)	PERCENT OF NASF NEEDING REMODELING (5)	PERCENT OF NASF NEEDING REPLACE-MENT (6)	NASF (000) NEEDED (POST-CONSTRUC-TION) (7)
TOTAL	6717	4359	2446	82	10	7	988
NUMBER OF SCHOOLS	53	53	53	51	51	51	53
MEAN	127	82	46	78	10	10	19
HIGH	353	219	141	100	75	100	130
LOW	0	0	0	0	0	0	0
081	101	67	44	27	73	0	0
085	78	68	23	100	0	0	80
102	240	134	57	84	13	2	14
124	212	126	76	88	10	2	3
132	106	66	31	50	0	42	33
135	0	68	67	21	75	4	27
192	80	53	42	77	23	0	0
193	106	68	39	12	0	88	0
231	57	33	21	67	33	0	38
242	204	124	69	77	23	0	0
244	147	111	84	100	0	0	0
305	246	188	98	90	0	10	94
314	279	173	80	100	0	0	0
335	0	14	8	100	0	0	0
352	227	116	58	79	21	0	0
361	162	89	49	99	0	1	0
383	211	124	67	100	0	0	0
423	80	47	28	87	0	13	41
445	166	100	58	86	14	0	54
462	194	123	48	98	0	0	17
471	212	98	56	82	10	0	15
473	39	27	13	81	0	19	0
474	53	32	24	100	0	0	0
491	186	118	64	70	25	5	0
513	107	60	32	92	8	0	14
552	79	51	29	84	8	0	18
564	118	92	56	58	41	1	9
565	50	37	12	100	0	0	24
591	5	8	8	50	0	50	0
592	183	108	52	100	0	0	12
603	0	77	32	100	0	0	0
605	85	93	42	80	14	0	47
633	171	96	50	90	10	0	0
641	87	67	67	100	0	0	0
642	353	203	87	100	0	0	0
701	171	100	50	100	0	0	34
704	124	64	37	66	33	3	0
715	0	0	0				0
733	43	38	22	0	0	0	0
751	110	63	26	37	56	0	54
784	215	129	88	82	6	12	25
792	324	219	141	100	0	0	0
804	212	122	73	100	0	0	56
821	0	25	11	56	0	44	0

TABLE J.1 (Continued)

CONTROLLED NONCLINICAL INSTRUCTION FACILITIES --FALL, 1973

DENTISTRY

(CONTINUED)

	OWNED AND CONTROLLED GROSS SQUARE FOOTAGE (000) (1)	CONTROLLED NASF (000) IN TOTAL (2)	CONTROLLED NASF EXCL. "ON-SITE PATIENT CARE" AND "OTHER" (3)	PERCENT OF NASF CONSIDERED SATIS-FACTORY (4)	PERCENT OF NASF NEEDING REMODELING (5)	PERCENT OF NASF NEEDING REPLACE-MENT (6)	NASF (000) NEEDED (POST-CONSTRUC-TION) (7)
832	0	24	14	100	0	0	0
853	198	96	62	0	25	75	100
854	82	64	39	100	0	0	3
862	57	46	26	0	0	100	0
911	170	74	42	100	0	0	0
913	79	67	37	100	0	0	130
941	238	114	79	100	0	0	0
942	0	0	0				46
944	70	63	28	100	0	0	0
SCHOOLS FOR WHICH VALUES ARE UNDEFINED				715 942	715 942	715 942	

TABLE J.2

CONTROLLED NONCLINICAL INSTRUCTION FACILITIES --FALL, 1973

MEDICINE

	OWNED AND CONTROLLED GROSS SQUARE FOOTAGE (000) (1)	CONTROLLED NASF (000) IN TOTAL (2)	CONTROLLED NASF EXCL. "ON-SITE PATIENT CARE" AND "OTHER" (3)	PERCENT OF NASF CONSIDERED SATIS- FACTORY (4)	PERCENT OF NASF NEEDING REMODELING (5)	PERCENT OF NASF NEEDING REPLACE- MENT (6)	NASF (000) NEEDED (POST- CONSTRUC- TION) (7)
TOTAL	35548	23844	18483	84	8	8	6468
NUMBER OF SCHOOLS	95	95	95	94	94	94	95
MEAN	374	251	195	87	5	7	68
HIGH	1713	1295	521	100	38	100	1080
LOW	0	0	0	0	0	0	0
022	156	110	104	100	1	0	0
023	0	58	55	100	0	0	0
024	397	245	190	100	0	6	150
025	95	56	47	100	0	0	15
054	1602	615	521	95	5	0	178
055	405	234	170	70	10	21	664
074	646	446	369	92	0	0	14
091	371	233	96	96	4	0	2
094	1713	967	501	58	21	21	403
095	229	185	127	100	0	0	1080
112	266	199	177	100	0	0	24
121	33	18	18	100	0	0	43
133	980	572	497	93	2	5	339
134	400	323	284	55	35	9	0
141	778	447	267	100	0	0	0
142	423	291	238	100	0	0	84
145	649	311	253	100	0	0	0
152	0	25	25	68	0	28	63
153	26	23	9	100	0	0	0
172	0	33	31	0	0	100	0
184	307	322	161	100	0	0	0
203	719	429	394	69	31	0	187
212	0	0	0				0
215	183	167	106	100	0	0	216
222	147	81	73	100	0	0	0
224	0	62	59	100	0	0	12
241	233	167	145	100	0	0	90
252	593	347	279	81	19	0	63
254	650	365	296	92	8	0	30
275	549	333	281	99	0	0	90
283	327	259	212	96	4	0	243
295	448	335	320	19	0	81	0
311	100	124	108	100	0	0	44
315	58	84	69	99	1	0	28
324	574	270	256	83	17	0	112
333	330	233	217	100	0	0	38
341	93	105	91	86	0	14	14
345	415	252	217	100	0	0	35
362	471	221	202	62	10	29	133
371	537	404	361	100	0	0	55
374	541	488	422	100	0	0	0
393	0	50	26	100	0	0	0
395	240	157	151	100	0	0	0
401	347	218	175	98	2	0	27

TABLE J.2 (Continued)

CONTROLLED NONCLINICAL INSTRUCTION FACILITIES --FALL, 1973

MEDICINE

(CONTINUED)

	OWNED AND CONTROLLED GROSS SQUARE FOOTAGE (000) (1)	CONTROLLED NASF (000) IN TOTAL (2)	CONTROLLED NASF EXCL. "ON-SITE PATIENT CARE" AND "OTHER" (3)	PERCENT OF NASF CONSIDERED SATIS-FACTORY (4)	PERCENT OF NASF NEEDING REMODELING (5)	PERCENT OF NASF NEEDING REPLACE-MENT (6)	NASF (000) NEEDED (POST-CONSTRUC-TION) (7)
415	543	301	279	87	7	6	89
433	0	656	442	78	22	0	20
455	0	98	88	100	0	0	49
472	1055	475	464	100	0	0	0
483	137	73	66	75	10	15	10
484	264	196	154	92	9	0	0
522	420	240	201	73	27	0	40
531	1124	768	402	86	0	14	264
543	230	153	143	87	13	0	24
562	193	161	134	100	0	0	16
563	70	38	30	84	11	5	31
574	865	592	292	90	9	1	61
575	74	54	54	100	0	0	0
583	153	109	109	100	0	0	0
602	237	108	97	100	0	0	0
613	206	169	161	100	0	0	55
624	201	133	133	100	0	0	31
635	988	374	347	71	29	0	0
651	124	68	65	100	0	0	0
652	322	195	143	80	18	2	101
653	373	209	177	100	0	0	0
664	504	284	220	100	0	0	0
671	788	626	409	91	9	0	0
672	71	40	27	100	0	0	0
683	228	134	115	81	10	10	36
711	91	49	48	69	27	4	50
714	399	201	199	79	5	16	0
731	511	323	194	100	0	0	0
743	582	411	324	100	0	0	0
744	1636	1295	408	39	27	34	0
761	213	137	132	92	7	0	136
772	0	542	492	87	6	7	83
774	563	325	287	70	0	30	0
783	486	295	293	84	13	3	27
802	337	193	180	89	0	11	0
813	75	64	64	100	0	0	0
823	459	240	220	100	0	0	0
831	358	198	187	100	0	0	137
863	443	231	202	62	38	0	7
864	202	126	111	100	0	0	0
872	839	569	394	77	23	0	0
891	33	35	33	100	0	0	292
903	226	208	197	0	0	100	0
904	227	130	110	100	0	0	0
921	449	248	229	71	24	5	335
951	289	172	162	95	5	0	60
952	260	75	75	100	0	0	32
953	541	291	291	100	0	0	21
954	173	158	153	0	0	100	0
962	100	74	27	100	0	0	0
973	285	136	119	100	0	0	45
SCHOOLS FOR WHICH VALUES ARE UNDEFINED				212	212	212	

TABLE J.3

CONTROLLED NONCLINICAL INSTRUCTION FACILITIES --FALL, 1973

OPTOMETRY

	OWNED AND CONTROLLED GROSS SQUARE FOOTAGE (000) (1)	CONTROLLED NASF (000) IN TOTAL (2)	CONTROLLED NASF EXCL. "ON-SITE PATIENT CARE" AND "OTHER" (3)	PERCENT OF NASF CONSIDERED SATIS-FACTORY (4)	PERCENT OF NASF NEEDING REMODELING (5)	PERCENT OF NASF NEEDING REPLACE-MENT (6)	NASF (000) NEEDED (POST-CONSTRUC-TION) (7)
TOTAL	565	376	243	89	4	7	145
NUMBER OF SCHOOLS	10	10	10	10	10	10	10
MEAN	56	38	24	83	3	14	14
HIGH	105	71	47	100	20	100	37
LOW	0	15	13	0	0	0	0
065	105	54	39	100	0	0	0
072	96	71	36	100	0	0	14
101	31	15	11	0	0	100	0
211	85	53	34	100	0	0	6
235	34	23	18	83	0	17	37
281	30	23	15	96	0	4	26
334	44	32	14	100	0	0	33
634	86	59	47	80	20	0	0
892	54	28	20	68	14	18	24
933	0	18	17	100	0	0	5

TABLE J.4

CONTROLLED NONCLINICAL INSTRUCTION FACILITIES --FALL, 1973

OSTEOPATHY

	OWNED AND CONTROLLED GROSS SQUARE FOOTAGE (000) (1)	CONTROLLED NASF (000) IN TOTAL (2)	CONTROLLED NASF EXCL. "ON-SITE PATIENT CARE" AND "OTHER" (3)	PERCENT OF NASF CONSIDERED SATIS-FACTORY (4)	PERCENT OF NASF NEEDING REMODELING (5)	PERCENT OF NASF NEEDING REPLACE-MENT (6)	NASF (000) NEEDED (POST-CONSTRUC-TION) (7)
TOTAL	698	571	226	91	3	6	69
NUMBER OF SCHOOLS	5	5	5	5	5	5	5
MEAN	140	114	45	90	6	4	14
HIGH	258	193	57	100	27	15	49
LOW	0	41	29	73	0	0	0
033	0	41	40	100	0	0	17
062	258	193	47	85	0	15	0
293	70	49	29	73	27	0	3
303	214	163	57	94	3	3	49
402	154	125	53	100	0	0	0

TABLE J.5

CONTROLLED NONCLINICAL INSTRUCTION FACILITIES --FALL, 1973

PHARMACY

	OWNED AND CONTROLLED GROSS SQUARE FOOTAGE (000) (1)	CONTROLLED NASF (000) IN TOTAL (2)	CONTROLLED NASF EXCL. "ON-SITE PATIENT CARE" AND "OTHER" (3)	PERCENT OF NASF CONSIDERED SATIS-FACTORY (4)	PERCENT OF NASF NEEDING REMODELING (5)	PERCENT OF NASF NEEDING REPLACE-MENT (6)	NASF (000) NEEDED (POST-CONSTRUC-TION) (7)
TOTAL	3060	2294	2016	90	3	7	506
NUMBER OF SCHOOLS	64	64	64	64	64	64	64
MEAN	48	36	31	85	5	10	8
HIGH	215	152	118	105	64	100	39
LOW	0	3	3	0	0	0	0
005	0	14	13	79	7	14	8
011	34	26	24	35	23	42	24
041	39	25	13	72	8	20	0
052	37	27	23	100	0	0	1
105	45	31	31	100	0	0	0
143	39	37	19	100	0	0	0
144	65	54	50	89	11	0	6
151	28	17	14	100	0	0	37
181	23	15	14	100	0	0	7
195	31	20	20	40	30	30	8
204	45	33	31	100	0	0	5
213	52	35	31	0	0	100	20
245	45	27	26	100	0	0	33
262	186	115	106	100	0	0	20
263	0	52	42	100	0	0	30
265	56	34	33	100	0	0	13
294	0	29	20	100	0	0	3
313	60	38	37	100	0	0	5
344	94	56	51	98	0	2	11
375	74	39	35	100	0	0	0
382	150	87	80	100	0	0	0
384	30	19	16	89	0	11	1
403	30	20	18	100	0	0	22
404	0	19	17	100	0	0	2
422	16	10	10	90	0	10	2
453	15	10	10	100	0	0	2
454	22	18	18	56	0	44	25
461	0	69	42	100	0	0	11
465	0	30	28	23	37	40	6
482	77	55	48	100	0	0	0
493	4	3	3	33	0	67	0
511	30	25	24	56	44	0	0
514	36	26	25	100	0	0	13
523	27	17	15	0	0	100	33
532	61	39	37	100	0	0	6
535	34	22	19	91	9	0	4
571	18	11	8	36	64	0	14
572	0	40	37	97	2	0	9
585	31	23	20	100	0	0	0
594	37	23	23	100	0	0	0
621	56	40	38	77	22	0	9
645	75	60	56	100	0	0	0
663	62	39	33	100	0	0	0
665	45	29	25	100	0	0	0

TABLE J.5 (Continued)

CONTROLLED NONCLINICAL INSTRUCTION FACILITIES --FALL, 1973

PHARMACY

(CONTINUED)

	OWNED AND CONTROLLED GROSS SQUARE FOOTAGE (000) (1)	CONTROLLED NASF (000) IN TOTAL (2)	CONTROLLED NASF EXCL. "ON-SITE PATIENT CARE" AND "OTHER" (3)	PERCENT OF NASF CONSIDERED SATIS- FACTORY (4)	PERCENT OF NASF NEEDING REMODELING (5)	PERCENT OF NASF NEEDING REPLACE- MENT (6)	NASF (000) NEEDED (POST- CONSTRUC- TION) (7)
684	215	152	118	100	0	0	0
692	76	74	52	100	0	0	0
693	13	10	9	50	0	50	4
703	118	43	43	0	0	100	0
724	31	29	28	66	10	24	4
742	42	27	24	100	0	0	0
753	63	40	32	85	15	0	3
801	55	40	38	100	0	0	0
812	70	43	43	100	0	0	0
824	55	33	31	94	6	0	39
841	32	27	26	100	0	0	2
874	26	22	19	100	0	0	2
883	23	15	14	100	0	0	0
902	123	81	67	93	7	0	13
922	33	22	18	100	0	0	0
923	48	40	40	100	0	0	0
971	43	30	26	100	0	0	10
982	62	38	36	100	0	0	0
984	24	16	15	100	0	0	9
991	99	54	54	100	0	0	30

TABLE J.6

CONTROLLED NONCLINICAL INSTRUCTION FACILITIES --FALL, 1973

PODIATRY

	OWNED AND CONTROLLED GROSS SQUARE FOOTAGE (000) (1)	CONTROLLED NASF (000) IN TOTAL (2)	CONTROLLED NASF EXCL. "ON-SITE PATIENT CARE" AND "OTHER" (3)	PERCENT OF NASF CONSIDERED SATIS-FACTORY (4)	PERCENT OF NASF NEEDING REMODELING (5)	PERCENT OF NASF NEEDING REPLACE-MENT (6)	NASF (000) NEEDED (POST-CONSTRUC-TION) (7)
TOTAL	263	140	86	39	4	36	109
NUMBER OF SCHOOLS	5	5	5	5	5	5	5
MEAN	53	28	17	40	8	52	22
HIGH	157	67	34	100	29	100	43
LOW	20	14	9	0	0	0	0
082	157	67	34	100	0	0	0
191	37	14	12	71	29	0	34
264	22	19	13	0	0	100	43
644	20	25	18	20	0	80	0
833	27	15	9	7	13	80	32

TABLE J.7

CONTROLLED NONCLINICAL INSTRUCTION FACILITIES --FALL, 1973

PUBLIC HEALTH

	OWNED AND CONTROLLED GROSS SQUARE FOOTAGE (000) (1)	CONTROLLED NASF (000) IN TOTAL (2)	CONTROLLED NASF EXCL. "ON-SITE PATIENT CARE" AND "OTHER" (3)	PERCENT OF NASF CONSIDERED SATIS- FACTORY (4)	PERCENT OF NASF NEEDING REMODELING (5)	PERCENT OF NASF NEEDING REPLACE- MENT (6)	NASF (000) NEEDED (POST- CONSTRUC- TION) (7)
TOTAL	1514	1009	925	81	8	6	291
NUMBER OF SCHOOLS	13	13	13	13	13	13	13
MEAN	116	78	71	79	4	11	22
HIGH	405	225	199	100	35	100	101
LOW	0	10	9	0	0	0	0
032	50	31	31	100	0	0	6
154	138	94	81	82	5	18	51
223	0	48	43	83	10	6	17
251	53	38	27	87	3	11	10
272	3	10	9	100	0	0	6
291	77	82	79	100	0	0	46
381	142	65	65	100	0	0	0
494	8	35	35	0	0	100	101
681	99	48	45	100	0	0	9
762	320	225	199	65	35	0	51
763	19	53	52	15	0	9	0
834	200	106	98	100	0	0	0
802	405	174	161	100	0	0	0

TABLE J.8

CONTROLLED NONCLINICAL INSTRUCTION FACILITIES --FALL, 1973

VETERINARY MEDICINE

	OWNED AND CONTROLLED GROSS SQUARE FOOTAGE (000) (1)	CONTROLLED NASF (000) IN TOTAL (2)	CONTROLLED NASF EXCL. "ON-SITE PATIENT CARE" AND "OTHER" (3)	PERCENT OF NASF CONSIDERED SATIS-FACTORY (4)	PERCENT OF NASF NEEDING REMODELING (5)	PERCENT OF NASF NEEDING REPLACE-MENT (6)	NASF (000) NEEDED (POST-CONSTRUC-TION) (7)
TOTAL	3458	2403	1895	79	8	13	1181
NUMBER OF SCHOOLS	19	19	19	18	18	18	19
MEAN	182	126	100	73	11	17	62
HIGH	391	281	242	100	75	100	245
LOW	0	0	0	0	0	0	0
002	246	213	156	68	0	32	68
021	219	127	118	100	2	0	34
043	14	31	24	100	0	0	0
061	76	40	29	25	75	0	21
165	315	169	151	98	2	0	0
243	275	161	98	57	25	18	103
292	261	172	125	100	0	0	26
321	0	116	104	43	26	31	70
354	391	224	138	100	0	0	127
363	169	84	84	95	0	6	104
392	197	71	65	100	0	0	1
424	140	99	69	91	4	5	19
442	192	119	110	15	50	74	114
502	0	80	72	64	0	37	110
545	216	157	71	87	0	13	51
551	382	281	229	68	10	22	245
622	17	12	10	0	0	100	0
784	348	247	242	100	0	0	0
851	0	0	0				0
SCHOOLS FOR WHICH VALUES ARE UNDEFINED				851	851	851	

FOOTNOTES

CONTROLLED NONCLINICAL INSTRUCTION FACILITIES--FALL, 1973

1. Figures exclude GSF of rented or leased facilities.

2. The figure displayed includes both owned and rented facilities, and further includes those areas considered "on-site patient care" and "other". If GSF figure was not reported by respondent, a zero is displayed.

4. Sum of columns 4-6 may not equal 100% due to round-off error and data errors (or missing data) uncorrected at the time of this writing.

6. Computed by subtracting "NASF which could be made satisfactory by remodeling" from the difference between total NASF and "NASF considered satisfactory for program purposes".

7. The figure displayed represents the additional NASF (in 000's) of controlled nonclinical instruction facilities perceived as needed by respondents following the completion of their existing construction and remodeling programs.

TABLE J.9

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

DENTISTRY

	<••••••••NUMBER OF ALLOCATED STUDENT STATIONS•••••••••>					<•••••••••NASF PER ALLOCATED STUDENT STATIO			
	CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)
TOTAL	19240	16323	1565	2014	2329	15	42	187	7
NUMBER OF SCHOOLS	53	53	53	53	53	47	48	34	2
MEAN	363	308	30	38	44	18	50	358	6
HIGH	1062	1107	309	445	602	62	250	1143	33
LOW	0	0	0	0	0	0	8	0	2
081	120	236	5	0	0	17	17		
085	270	268	35	6	0	11	34	29	
102	740	474	36	0	0	15	34	250	
124	528	383	30	0	0	17	52	600	
132	374	213	16	75	0	13	28	187	10
135	933	640	53	92	0	10	47	57	7
192	72	94	13	61	150	28	64	538	11
193	145	371	20	35	0	21	38	500	2
231	289	315	0	0	0	10	38		
242	0	280	0	0	0		96		
244	684	430	32	445	0	18	44	375	7
305	487	248	40	43	396	14	69	1050	9
314	1062	1107	130	0	0	16	26	138	
335	144	0	0	0	0	14			
352	700	500	300	50	0	14	30	23	12
361	287	299	79	0	0	17	37	177	
383	617	342	28	85	0	18	70	250	7
423	256	236	0	60	0	16	25		6
445	458	480	30	90	0	17	46	233	3
462	260	192	18	44	360	19	52	444	4
471	703	640	0	6	0	16	19		33
473	180	151	6	32	0	17	26	333	3
474	48	216	6	0	88	21	79	167	
491	864	571	16	54	0	13	51	900	3
513	300	420	0	45	0	13	33		4
552	158	269	20	0	0	19	19	350	
564	638	572	0	52	0	14	24		5
565	1	120	19	0	0	0	42	53	
591	0	0	0	0	0				
592	378	340	78	0	0	16	85	38	
601	356	128	30	0	0	14	8	133	
605	1001	998	1	50	0	9	11	1000	26
633	402	461	50	94	429	15	33	160	6
641	111	172	0	0	0	18	70		
642	80	504	0	208	602	62	50		7
701	435	404	36	0	0	14	72	56	
704	185	265	21	0	0	59	30	190	
715	0	0	0	0	0				
733	152	136	0	0	0	26	19		
751	345	150	2	179	0	12	40	0	2
764	890	299	0	75	304	18	27		6
792	592	144	0	0	0	20	250		

TABLE J.9

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

NUMBER OF ALLOCATED STUDENT STATIONS					NASF PER ALLOCATED STUDENT STATION				
CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)	AUDITORIA (10)
19240	16323	1565	2014	2329	15	42	187	71	11
53	53	53	53	53	47	48	34	24	7
363	308	30	38	44	18	50	358	87	13
1062	1107	309	445	602	62	250	1143	333	23
0	0	0	0	0	0	8	0	25	3
120	236	9	0	0	17	17			
270	268	35	0	0	11	34	29		
740	474	36	0	0	15	34	250		
528	383	30	0	0	17	52	600		
374	213	16	75	0	13	29	187	107	
933	640	53	92	0	10	47	57	76	
72	94	13	61	150	28	64	538	115	28
145	371	20	35	0	21	30	500	29	
289	315	0	0	0	10	38			
0	280	0	0	0		96			
684	430	32	445	0	18	44	375	79	
487	248	40	43	396	14	69	1050	93	8
1062	1107	130	0	0	16	26	138		
144	0	0	0	0	14				
700	500	300	50	0	14	30	23	120	
287	299	79	0	0	17	37	177		
617	342	28	85	0	18	70	250	71	
256	236	0	60	0	16	25		67	
458	480	30	90	0	17	46	233	33	
260	192	18	44	360	19	52	444	45	11
703	640	0	6	0	16	19		333	
180	151	6	32	0	17	26	333	31	
48	216	6	0	88	21	79	167		23
864	571	10	54	0	13	51	900	37	
300	420	0	45	0	13	33		44	
158	269	20	0	0	19	19	350		
638	572	0	52	0	14	24		58	
1	120	19	0	0	0	42	53		
0	0	0	0	0					
378	340	73	0	0	16	85	38		
356	128	30	0	0	14	8	133		
1001	998	1	50	0	9	11	1000	260	
402	461	50	94	429	15	33	160	64	12
111	172	0	0	0	15	70			
80	504	0	208	602	62	50		72	13
435	404	36	0	0	14	72	56		
185	265	21	0	0	59	30	190		
0	0	0	0	0					
152	106	0	0	0	26	19			
345	150	2	179	0	12	40	0	28	
890	299	0	75	304	18	27		67	3
592	144	0	0	0	20	250			

TABLE J.9 (Continued)

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

DENTISTRY

(CONTINUED)

	<••••••••NUMBER OF ALLOCATED STUDENT STATIONS				••••••••••>	<••••••••••NASF PER ALLOCATED STUDENT STATIO			
	CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)
804	1025	571	14	6	0	7	26	1143	16
821	24	32	4	0	0	42	31	250	
832	0	0	0	0	0				
853	695	480	28	51	0	10	29	571	3
854	156	250	6	0	0	13	72	1000	
862	75	46	0	0	0	13	87		
911	408	297	15	82	0	20	27	467	4
913	342	106	309	0	0	12	57	65	
941	190	163	90	0	0	16	166	460	
942	0	0	0	0	0				
944	0	140	0	0	0		57		
SCHOOLS FOR WHICH VALUES ARE UNDEFINED						242	335	81	8
						591	591	231	8
						715	715	242	10
						832	832	335	12
						942	942	423	23
						944		471	24
								513	31
								564	33
								591	36
								641	47
								642	55
								715	56
								733	59
								764	59
								792	60
								832	64
								862	70
								942	70
								944	71
									73
									79
									82
									83
									85
									86
									91
									94
									94
									94

TABLE J.9 (Continued)

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

(CONTINUED)

NUMBER OF ALLOCATED STUDENT STATIONS					NASF PER ALLOCATED STUDENT STATION				
CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)	AUDITORIA (10)
1025	571	14	6	0	7	26	1143	167	
24	32	4	0	0	42	31	250		
0	0	0	0	0					
695	680	28	51	0	10	29	571	39	
156	250	6	0	0	13	72	1000		
75	46	0	0	0	13	87			
488	297	15	82	0	20	27	467	49	
342	106	309	0	0	12	57	65		
198	163	50	0	0	16	166	460		
0	0	0	0	0					
0	140	0	0	0		57			
					242	335	81	81	81
					591	591	231	85	85
					715	715	242	102	102
					832	832	335	124	124
					942	942	423	231	132
					944		471	242	135
							513	314	193
							564	335	231
							591	361	242
							641	474	244
							642	552	314
							715	565	335
							733	591	352
							764	592	361
							792	603	383
							832	641	423
							862	701	445
							942	704	471
							944	715	473
								733	491
								792	513
								821	552
								832	564
								854	565
								862	591
								913	592
								941	603
								942	605
								944	641
									701
									704
									715
									733
									751
									792
									804
									821
									832
									853
									854
									862
									911
									913
									941
									942
									944

TABLE J.10

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

MEDICINE

	<--------NUMBER OF ALLOCATED STUDENT STATIONS				---------><	--------NASF PER ALLOCATED STUDENT STATIO		
	CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)
TOTAL	57750	42100	16145	13737	23073	17	50	266	8
NUMBER OF SCHOOLS	95	95	95	95	95	85	87	51	6
MEAN	608	443	170	145	243	21	58	803	11
HIGH	2520	1824	3190	1335	1738	124	227	4900	100
LOW	0	0	0	0	0	0	0	65	
022	393	363	0	170	0	15	66		4
023	0	90	0	0	0		67		
024	952	402	21	491	276	17	37	3143	6
025	0	250	138	75	0		44	138	6
054	1579	368	1130	180	753	26	158	175	14
055	340	550	22	499	1026	124	45	545	6
074	1600	192	0	191	1051	9	120		10
091	8	0	50	15	0	0		1000	13
094	522	157	0	110	0	27	70		11
095	376	240	0	0	300	13	29		
112	520	500	0	23	150	31	76		100
121	36	25	0	30	0	28	40		20
133	2010	1210	400	1335	0	17	83	515	3
134	1225	744	171	300	0	18	66	632	2
141	619	152	0	200	626	13	86		14
142	1078	403	355	194	0	25	57	293	12
145	1039	418	94	0	0	9	43	1521	
152	154	60	0	120	0	19	100		6
153	40	40	0	40	0	25	75		5
172	0	0	0	24	0				12
184	75	222	600	108	744	67	149	110	11
203	1301	1130	40	0	180	18	33	4900	
212	0	0	0	0	0				
215	305	200	42	40	0	92	65	524	20
222	445	340	15	210	0	16	29	1533	2
224	244	398	72	94	147	12	28	278	8
241	1383	943	0	0	0	13	40		
252	50	943	226	55	0	25	36	500	16
254	993	352	0	248	0	9	227		11
275	572	624	490	198	0	9	18	290	5
283	777	591	0	121	0	10	52		7
295	1800	500	50	700	0	11	42	2600	6
311	430	160	214	450	0	23	56	201	2
315	392	24	99	0	0	28	0	313	
324	1081	768	1164	0	0	15	51	105	
333	850	1125	128	318	0	13	29	914	2
341	109	144	252	50	0	18	90	163	10
345	546	348	0	213	634	15	92		10
362	1286	756	497	76	0	13	26	143	10
371	1800	1000	200	623	0	15	39	525	10
374	1752	998	3190	225	532	18	32	69	4
393	96	0	0	82	180	31			13

TABLE J.10

DETAILING OF STUDENT STATIONS BY ROOM-TYPE: FALL, 1973

<••••••••NUMBER OF ALLOCATED STUDENT STATIONS••••••••••>					<•••••••••NASF PER ALLOCATED STUDENT STATION••••••••••>				
CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)	AUDITORIA (10)
57750	42100	16145	13737	23073	17	50	266	84	11
95	95	95	95	95	85	87	51	66	38
608	443	170	145	243	21	58	803	115	12
2520	1824	3190	1335	1738	124	227	4900	1000	25
0	0	0	0	0	0	0	65	2	4
393	363	0	170	0	15	66		41	
0	90	0	0	0		67			
952	402	21	491	276	17	37	3143	61	11
0	250	138	75	0		44	138	67	
1579	368	1130	188	753	26	158	175	149	9
340	550	22	499	1026	124	45	545	62	12
1600	192	0	191	1051	9	120		100	11
0	0	50	15	0	0		1800	133	
522	157	0	110	0	27	70		110	
376	240	0	0	300	13	29			10
520	500	0	23	150	31	76		1000	7
36	25	0	30	0	28	40		200	
2010	1210	400	1335	0	17	83	515	37	
1225	744	171	300	0	10	66	632	23	
619	152	0	200	626	13	86		145	11
1078	403	355	194	0	25	57	293	129	
1039	418	94	0	0	9	43	1521		
154	60	0	120	0	19	100		67	
40	40	0	40	0	25	75		50	
0	0	0	24	0				125	
75	222	600	108	744	67	149	110	111	13
1301	1130	40	0	100	18	33	4900		11
0	0	0	0	0					
305	200	42	40	0	92	65	524	200	
445	340	15	210	0	16	29	1533	24	
244	398	72	94	147	12	28	278	85	7
1383	943	0	0	0	13	40			
80	943	226	55	0	25	36	580	164	
993	352	0	248	0	9	227		113	
572	624	490	198	0	9	18	290	56	
777	591	0	121	0	10	52		74	
1800	500	50	700	0	11	42	2600	67	
430	160	214	450	0	23	56	201	2	
392	24	99	0	0	28	0	313		
1081	768	1164	0	0	15	51	105		
850	1125	128	318	0	13	29	914	28	
109	144	252	50	0	18	90	163	180	
546	348	0	213	634	15	92		108	17
1266	756	497	76	0	13	26	143	184	
1800	1000	200	623	0	15	39	525	100	
1752	998	3198	225	532	18	32	69	49	11
96	0	0	82	100	31			134	20

TABLE J.10 (Continued)

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

MEDICINE

(CONTINUED)

<••••••••NUMBER OF ALLOCATED STUDENT STATIONS•••••••••><•••••••••NASF PER ALLOCATED STUDENT STATION

	CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)
395	475	421	305	200	280	15	52	193	95
401	244	192	125	200	350	12	52	544	14
415	965	468	150	64	750	17	41	820	219
433	570	1040	235	185	1070	23	56	1106	97
455	108	0	0	0	0	19			
472	1154	1724	0	0	1738	12	32		
483	396	224	55	0	0	13	76	400	
484	613	288	145	125	417	24	163	228	112
522	1012	500	60	290	800	23	30	1075	76
531	696	293	0	163	0	11	51		17
543	598	415	470	0	294	22	31	132	
562	0	293	0	0	0		44		
563	161	112	0	0	0	19	27		
574	967	466	0	291	600	12	73		86
575	139	665	310	0	0	14	5	97	
583	272	114	194	75	304	26	79	196	227
602	90	68	20	0	0	22	33	3750	
613	330	340	0	0	0	15	38		
624	306	322	0	70	0	62	106		57
639	0	589	0	370	0		41		76
651	0	0	0	0	0				
652	800	576	40	135	600	10	23	1475	104
653	220	200	0	0	0	50	190		
664	115	613	0	263	682	52	59		95
671	294	408	0	300	1013	37	42		120
672	12	40	0	0	0	0	50		
683	480	246	36	84	0	19	77	1111	131
711	316	348	46	0	0	16	57	65	
714	634	378	197	325	442	9	77	305	55
731	670	1824	0	0	0	19	24		
743	2520	657	0	100	0	12	38		120
744	2184	631	0	365	855	14	101		101
761	485	520	62	59	475	19	58	565	17
772	941	581	1375	60	1600	22	43	164	67
774	712	657	0	0	400	11	38		
783	1308	461	125	116	350	11	39	1056	86
802	510	682	0	0	0	12	45		
813	90	87	0	60	85	11	92		50
823	1000	400	0	300	500	14	45		67
831	80	512	0	130	0	12	49		38
863	969	722	48	200	1144	14	19	1792	65
864	1325	[illegible]	0	0	0	3	22		
872	1866	364	0	735	694	12	44		112
891	100	84	10	12	0	60	0	1300	250
903	753	800	1504	200	0	11	50	71	25
904	238	238	146	0	0	17	71	226	
921	937	654	0	175	250	18	35		91
951	101	321	68	15	0	20	106	1221	133
952	0	0	0	0	0				
953	138	1431	644	202	861	43	42	141	149
954	0	0	0	0	0				
962	48	48	48	52	0	21	62	167	58
973	0	681	47	0	0		62	638	

TABLE J.10 (Continued)

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

(CONTINUED)

<••••••••NUMBER OF ALLOCATED STUDENT STATIONS•••••••••>					<•••••••••NASF PER ALLOCATED STUDENT STATION••••••••••>				
CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)	AUDITORIA (10)
475	421	305	200	280	15	52	193	95	25
244	192	125	200	350	12	52	544	140	17
965	468	150	64	750	17	41	820	219	9
570	1040	235	185	1070	23	56	1106	97	10
108	0	0	0	0	19				
1154	1724	0	0	1738	12	32			9
396	224	55	0	0	13	76	400		
613	288	145	125	417	24	163	228	112	10
1012	500	80	290	800	23	30	1075	76	7
696	293	0	163	0	11	51		178	
598	415	470	0	294	22	31	132		10
0	293	0	0	0		44			
161	112	0	0	0	19	27			
967	466	0	291	600	12	73		86	17
139	665	310	0	0	14	5	97		
272	114	194	75	304	26	79	196	227	10
90	60	20	0	0	22	33	3750		
330	340	0	0	0	15	38			
306	322	0	70	0	62	106		57	
0	589	0	370	0		41		76	
0	0	0	0	0					
860	576	40	135	600	18	23	1475	104	13
220	200	0	0	0	50	190			
115	613	0	263	682	52	59		95	16
294	408	0	300	1013	37	42		120	11
12	40	0	0	0	0	50			
480	246	36	84	0	19	77	1111	131	
316	348	46	0	0	16	57	65		
634	378	197	325	442	9	77	305	55	18
670	1824	0	0	0	19	24			
2520	657	0	100	0	12	38		120	
2184	631	0	365	855	14	101		101	14
485	520	62	59	475	19	58	565	17	8
941	581	1375	60	1600	22	43	164	67	16
712	657	0	0	400	11	38			5
1308	461	125	116	350	11	39	1056	86	6
510	682	0	0	0	12	45			
90	87	0	60	85	11	92		50	12
1000	400	0	300	500	14	45		67	4
80	512	0	130	0	12	49		38	
969	722	48	200	1144	14	19	1792	65	5
1325	760	0	0	0	3	22			
1866	364	0	735	694	12	44		112	12
100	84	18	12	0	60	0	1300	250	
753	800	1504	200	0	11	50	71	25	
238	238	146	0	0	17	71	226		
937	654	0	175	250	18	35		91	12
101	321	68	15	0	20	106	1221	133	
0	0	0	0	0					
138	1431	644	202	861	43	42	141	149	13
0	0	0	0	0					
48	48	48	52	0	21	62	167	58	
0	601	47	0	0		62	638		

TABLE J.10 (Continued)

DETAILING OF STUDENT STATIONS BY ROOM-TYPE: FALL, 1973

MEDICINE

(CONTINUED)

	<--------NUMBER OF ALLOCATED STUDENT STATIONS--------->					<---------NASF PER ALLOCATED STUDENT STATION			
	CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)
SCHOOLS FOR WHICH VALUES ARE UNDEFINED						23	91	22	23
						25	172	23	95
						172	212	74	145
						212	393	94	203
						562	455	95	212
						635	651	112	241
						651	952	121	319
						952	954	141	324
						954		152	455
						973		153	472
								172	483
								212	543
								241	562
								254	563
								283	579
								345	602
								393	613
								455	651
								472	653
								531	672
								562	711
								563	731
								574	774
								613	802
								624	864
								635	904
								651	952
								653	954
								664	973
								671	
								672	
								731	
								743	
								744	
								774	
								802	
								813	
								823	
								831	
								864	
								872	
								921	
								952	
								954	

TABLE J.10 (Continued)

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

(CONTINUED)

<-------NUMBER OF ALLOCATED STUDENT STATIONS				------>	<-------NASF PER ALLOCATED STUDENT STATION				------>
CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)	AUDITORIA (10)
					23	91	22	23	22
					25	172	23	95	23
					172	212	74	145	25
					212	393	94	203	91
					562	455	95	212	94
					635	651	112	241	121
					651	952	121	315	133
					952	954	141	324	134
					954		152	455	142
					973		153	472	145
							172	483	152
							212	543	153
							241	562	172
							254	563	212
							283	575	215
							345	602	222
							393	613	241
							455	651	252
							472	653	254
							531	672	275
							562	711	283
							563	731	295
							574	774	311
							613	802	315
							624	864	324
							635	904	333
							651	952	341
							653	954	362
							664	973	371
							671		455
							672		483
							731		531
							743		562
							744		563
							774		575
							802		602
							813		613
							823		624
							831		635
							864		651
							872		653
							921		672
							952		683
							954		711
									731
									743
									802
									831
									864
									891
									903
									904
									951
									952
									954
									962
									973

TABLE J.11

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

OPTOMETRY

	<********NUMBER OF ALLOCATED STUDENT STATIONS				********><********NASF PER ALLOCATED STUDENT STATI				
	CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRA (9
TOTAL	2614	1486	269	519	300	14	51	115	
NUMBER OF SCHOOLS	10	10	10	10	10	10	10	9	
MEAN	261	149	27	52	30	13	56	229	
HIGH	595	400	110	108	300	17	91	500	
LOW	15	44	0	0	0	0	28	36	
065	580	240	25	100	0	12	46	160	
072	595	316	110	44	300	15	28	36	
101	60	60	0	0	0	17	50		
211	315	122	44	96	0	13	82	91	
235	15	81	23	22	0	0	37	87	
281	80	52	36	35	0	12	58	139	
334	133	44	8	24	0	15	91	500	
634	416	400	5	108	0	17	62	400	
892	260	70	8	40	0	15	71	250	
933	160	101	10	50	0	12	30	400	
SCHOOLS FOR WHICH VALUES ARE UNDEFINED								101	1

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TABLE J.11

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

NUMBER OF ALLOCATED STUDENT STATIONS					NASF PER ALLOCATED STUDENT STATION				
CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)	AUDITORIA (10)
2614	1486	269	519	300	14	51	115	56	13
10	10	10	10	10	10	10	9	9	1
261	149	27	52	30	13	56	229	56	13
595	400	110	108	300	17	91	500	91	13
15	44	0	0	0	0	28	36	29	13
580	240	25	100	0	12	46	160	60	
595	316	110	44	300	15	28	36	91	13
60	60	0	0	0	17	50			
315	122	44	96	0	13	82	91	62	
15	81	23	22	0	0	37	87	45	
80	52	36	35	0	12	58	139	29	
133	44	8	24	0	15	91	500	42	
416	400	5	108	0	17	62	400	37	
268	70	8	40	0	15	71	250	79	
160	101	10	50	0	12	30	408	68	
							101	101	65
									101
									211
									235
									281
									334
									634
									892
									933

TABLE J.12

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

OSTEOPATHY

	<••••••••NUMBER OF ALLOCATED STUDENT STATIONS•••••••••>					<•••••••••NASF PER ALLOCATED STUDENT STATION			
	CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)
TOTAL	1673	1378	180	333	686	16	34	106	66
NUMBER OF SCHOOLS	5	5	5	5	5	4	5	4	5
MEAN	335	276	36	67	137	16	38	339	68
HIGH	703	620	100	132	500	18	57	1000	86
LOW	0	88	0	35	0	14	30	30	29
033	0	88	64	68	0		57	125	29
062	260	250	6	35	186	15	32	1000	86
293	260	268	10	63	0	15	30	200	63
303	703	620	0	39	0	14	32		86
402	450	152	100	132	500	18	39	30	76
SCHOOLS FOR WHICH VALUES ARE UNDEFINED						33		303	

TABLE J.12

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

<********NUMBER OF ALLOCATED	STUDENT STATIONS*********>				<*********NASF PER ALLOCATED	STUDENT STATION**********>			
CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)	AUDITORIA (10)
1673	1378	100	333	686	16	34	106	66	10
5	5	5	5	5	4	5	4	5	2
335	276	36	67	137	16	38	339	68	12
703	620	100	132	500	18	57	1000	86	16
0	88	0	35	0	14	30	30	29	0
0	88	64	68	0		57	125	29	
260	250	8	35	186	15	32	1000	86	16
260	268	10	63	0	15	38	200	63	
703	620	0	35	0	14	32		86	
450	152	100	132	500	18	39	30	76	0
					33		303		33
									293
									303

TABLE J.13

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

PHARMACY

	<--------NUMBER OF ALLOCATED STUDENT STATIONS				---------><---------NASF PER ALLOCATED STUDENT STATION				
	CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)
TOTAL	12949	17518	3114	2421	5799	14	42	161	41
NUMBER OF SCHOOLS	64	64	64	64	64	48	63	56	37
MEAN	202	274	49	38	91	15	49	285	34
HIGH	1136	1081	665	245	1520	36	144	5000	83
LOW	0	0	0	0	0	0	11	28	8
005	0	199	45	0	0		45	67	
011	130	117	36	0	0	31	77	194	
041	160	188	0	0	0	12	48		
052	237	185	12	20	0	17	65	167	8
105	116	131	25	0	150	17	38	520	
143	182	132	24	8	0	11	53	208	8
144	398	394	33	89	237	13	69	121	45
151	0	72	21	0	0		56	190	
181	70	128	16	0	0	14	39	125	
195	109	187	0	28	179	18	59		36
204	845	563	35	32	0	11	18	143	31
213	0	176	51	60	0		34	314	33
245	0	220	22	64	0		50	318	31
262	0	847	75	0	0		88	640	
263	160	216	88	45	0	12	42	250	22
265	0	231	18	84	0		61	444	36
294	260	624	30	20	0	8	16	100	0
313	514	378	25	116	300	12	42	80	43
344	82	205	124	120	0	12	63	105	33
375	180	244	135	0	360	17	41	89	
382	353	266	200	130	0	14	83	155	38
384	0	114	40	75	0		44	125	27
403	0	220	17	0	0		45	176	
404	0	208	12	48	0		43	333	21
422	156	96	4	22	0	13	52	250	45
453	0	108	44	0	0		46	68	
454	230	98	15	36	0	13	41	333	56
461	970	472	76	125	480	6	28	105	40
465	375	348	25	0	0	13	32	360	
482	200	200	100	100	400	15	55	250	30
493	0	0	0	0	0				
511	0	660	24	0	0		23	167	
514	303	279	28	15	0	17	47	71	0
523	199	96	0	0	0	10	52		
532	180	300	75	50	0	11	17	293	20
535	28	364	17	8	0	36	16	412	0
571	50	129	8	0	0	0	39	250	
572	258	197	19	34	0	16	51	579	29
585	30	336	18	0	0	33	39	167	
594	30	231	25	0	0	33	61	200	
621	317	507	60	90	0	13	16	267	33
645	12	170	0	54	0	0	82		56

TABLE J.13

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

<••••••••NUMBER OF ALLOCATED STUDENT STATIONS				••••••••••>	<••••••••••NASF PER ALLOCATED STUDENT STATION				••••••••••>
CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)	AUDITORIA (10)
12949	17518	3114	2421	5799	14	42	161	41	10
64	64	64	64	64	48	63	56	37	15
202	274	49	38	91	15	49	285	34	18
1136	1081	665	245	1520	36	144	5000	83	21
0	0	0	0	0	0	11	20	0	6
0	199	45	0	0		45	67		
139	117	36	0	0	31	77	194		
160	188	0	0	0	12	48			
237	185	12	20	0	17	65	167	0	
116	131	25	0	150	17	38	520		13
102	132	24	8	0	11	53	208	0	
398	394	33	89	237	13	69	121	45	8
0	72	21	0	0		56	190		
70	128	16	0	0	14	39	125		
109	187	0	28	179	18	59		36	6
845	563	35	32	0	11	18	143	31	
0	176	51	60	0		34	314	33	
0	220	22	64	0		50	318	31	
0	647	75	0	0		68	640		
160	216	88	45	0	12	42	250	22	
0	231	18	84	0		61	444	36	
260	624	30	20	0	8	16	100	0	
514	378	25	116	300	12	42	80	43	10
82	205	124	120	0	12	63	105	33	
180	244	135	0	360	17	41	89		8
353	266	200	130	0	14	83	155	38	
0	114	40	75	0		44	125	27	
0	220	17	0	0		45	176		
0	208	12	48	0		43	333	21	
156	96	4	22	0	13	52	250	45	
0	108	44	0	0		46	68		
230	98	15	36	0	13	41	333	56	
970	472	76	125	480	6	28	105	40	6
375	348	25	0	0	13	32	360		
200	200	100	100	400	15	55	250	30	7
0	0	0	0	0					
0	660	24	0	0		23	167		
303	279	28	15	0	17	47	71	0	
199	96	0	0	0	10	52			
180	300	75	50	0	11	17	293	20	
28	364	17	8	0	36	16	412	0	
50	129	8	0	0	0	39	250		
258	197	19	34	0	16	51	579	29	
30	336	18	0	0	33	39	167		
30	231	25	0	0	33	61	200		
317	507	60	90	0	13	16	267	33	
12	170	0	54	0	0	82		56	

TABLE J.13 (Continued)

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

PHARMACY

(CONTINUED)

	<*********NUMBER OF ALLOCATED STUDENT STATIONS				*********><*********NASF PER ALLOCATED STUDENT STATION**				
	CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)
663	306	320	105	0	0	13	34	95	
665	240	190	0	34	0	17	74		29
684	1136	773	90	245	1520	15	40	104	82
692	739	340	69	0	0	12	76	87	
693	70	42	0	12	0	14	71		83
703	190	350	20	142	670	15	57	200	14
724	150	300	35	0	0	7	43	229	
742	210	212	16	50	226	19	42	125	40
753	280	330	26	60	350	14	36	115	33
801	135	205	20	60	146	15	93	50	83
812	344	165	106	0	0	20	67	170	
824	0	112	0	0	0		80		
841	125	90	1	0	0	16	144	9000	
874	159	819	50	84	128	13	11	20	24
883	0	274	12	0	0		33	83	
902	842	1081	46	120	0	10	25	43	67
922	0	131	35	0	0		53	200	
923	0	112	665	0	0		36	45	
971	295	184	14	87	0	14	43	143	46
982	120	266	10	0	341	23	75	111	
984	189	360	17	6	0	16	17	176	8
991	261	226	139	40	312	19	39	173	42

TABLE J.13 (Continued)

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

(CONTINUED)

<••••••••NUMBER OF ALLOCATED STUDENT STATIONS				••••••••>	<••••••••NASF PER ALLOCATED STUDENT STATION				••••••••>
CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)	AUDITORIA (10)
300	320	105	0	0	13	34	95		
240	190	0	34	0	17	74		29	
1136	773	98	245	1520	15	40	194	82	10
739	340	69	0	0	12	76	87		
70	42	0	12	0	14	71		83	
190	350	20	142	470	15	57	200	14	9
150	300	35	0	0	7	43	229		
210	212	16	50	220	19	42	125	40	13
200	330	26	60	350	14	36	115	33	11
135	205	20	60	146	15	93	50	83	21
344	165	106	0	0	20	67	170		
0	112	0	0	0		80			
125	90	1	0	0	16	144	5000		
199	819	50	84	120	13	11	20	24	8
0	274	12	0	0		33	83		
842	1081	46	120	0	18	25	43	67	
0	131	35	0	0		53	200		
0	112	665	0	0		36	45		
295	184	14	87	0	14	43	143	46	
120	266	18	0	341	23	75	111		9
109	360	17	6	0	16	17	176	0	
261	226	139	40	312	19	35	173	42	13

TABLE J.13 (Continued)

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

PHARMACY

(CONTINUED)

	<••••••••NUMBER OF ALLOCATED STUDENT STATIONS				••••••••><••••••••NASF PER ALLOCATED STUDENT STATION			
	CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)
SCHOOLS FOR WHICH VALUES ARE UNDEFINED						5	493	41	5
						151		195	11
						213		493	41
						245		523	105
						262		645	151
						265		665	181
						384		693	262
						403		824	375
						404			403
						453			453
						493			465
						511			493
						824			511
						883			523
						922			571
						923			585
									594
									663
									692
									724
									812
									824
									841
									883
									922
									923
									982

TABLE J.13 (Continued)

DETAILING OF STUDENT STATIONS BY ROOM-TYPE: FALL, 1973

(CONTINUED)

<--------NUMBER OF ALLOCATED STUDENT STATIONS--------					><--------NASF PER ALLOCATED STUDENT STATION-------->				
CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)	AUDITORIA (10)
					5	493	41	5	5
					151		195	11	11
					213		493	41	41
					245		523	105	52
					262		645	151	143
					265		665	181	151
					384		693	262	181
					403		824	375	204
					404			403	213
					453			453	245
					493			465	262
					511			493	263
					824			511	265
					883			523	294
					922			571	344
					923			585	382
								594	384
								663	403
								692	404
								724	422
								812	453
								824	454
								841	465
								883	493
								922	511
								923	514
								982	523
									532
									535
									571
									572
									585
									594
									621
									645
									663
									665
									692
									693
									724
									812
									824
									841
									883
									902
									922
									923
									971
									984

TABLE J.14

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

PODIATRY

	<NUMBER OF ALLOCATED STUDENT STATIONS				>	<NASF PER ALLOCATED STUDENT STATION			
	CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)
TOTAL	1324	420	4	232	350	22	49	0	26
NUMBER OF SCHOOLS	5	5	5	5	5	5	5	1	5
MEAN	265	84	1	46	70	22	73	0	49
HIGH	320	120	4	100	350	37	200	0	100
LOW	190	20	0	10	0	12	20	0	10
082	300	120	0	60	350	37	75		33
191	320	70	0	12	0	12	43		83
264	300	100	0	100	0	13	20		10
644	214	20	0	10	0	33	200		100
833	190	110	4	50	0	16	25	0	20
SCHOOLS FOR WHICH VALUES ARE UNDEFINED								082 191 264 644	

TABLE J.14

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

NUMBER OF ALLOCATED STUDENT STATIONS					NASF PER ALLOCATED STUDENT STATION				
CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)	AUDITORIA (10)
1324	420	4	232	350	22	49	0	26	1[illegible]
5	5	5	5	5	5	5	1	5	[illegible]
265	86	1	46	70	22	73	0	49	11
320	120	4	100	350	37	200	0	100	11
190	20	0	10	0	12	20	0	10	11
300	120	0	60	350	37	75		33	11
320	70	0	12	0	12	43		83	
300	100	0	100	0	13	70		10	
214	20	0	10	0	33	200		100	
190	110	4	50	0	16	25	0	20	
							82		191
							191		264
							264		644
							644		833

TABLE J.15

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

PUBLIC HEALTH

	<••••••••NUMBER OF ALLOCATED STUDENT STATIONS				••••••••>	<••••••••NASF PER ALLOCATED STUDENT STATION			
	CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)
TOTAL	4430	1068	1168	998	1438	21	40	269	55
NUMBER OF SCHOOLS	13	13	13	13	13	13	11	11	10
MEAN	341	82	90	77	111	24	42	512	65
HIGH	1120	181	365	309	460	62	111	1580	125
LOW	35	0	0	0	0	14	0	89	40
032	179	18	18	134	0	17	111	167	60
154	538	180	191	8	240	19	39	89	125
223	174	59	33	0	0	17	34	727	
251	375	148	3	20	0	16	27	667	58
272	70	8	0	0	0	14	0		
291	35	135	82	112	0	29	37	341	71
381	211	115	178	0	0	19	43	152	
494	220	0	8	20	0	41		500	100
681	140	35	20	50	100	14	29	1050	40
762	1120	181	365	309	350	22	39	205	45
763	80	0	220	40	0	62		155	50
834	961	181	0	152	288	14	59		59
882	327	88	50	153	460	31	45	1580	52
SCHOOLS FOR WHICH VALUES ARE UNDEFINED							494 763	272 834	223 272 381

TABLE J.15

DETAILING OF STUDENT STATIONS BY ROOM-TYPE: FALL, 1973

<••••••••NUMBER OF ALLOCATED STUDENT STATIONS				••••••••>	<••••••••NASF PER ALLOCATED STUDENT STATION				••••••••••>
CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)	AUDITORIA (10)
4430	1068	1168	998	1438	21	40	269	55	11
13	13	13	13	13	13	11	11	10	5
341	82	90	77	111	24	42	512	65	10
1120	181	365	309	460	62	111	1580	125	20
35	0	0	0	0	14	0	89	40	3
179	18	18	134	0	17	111	167	60	
530	180	191	8	240	19	39	89	125	8
174	59	33	0	0	17	34	727		
375	148	3	20	0	16	27	667	50	
70	8	0	0	0	14	0			
35	135	82	112	0	29	37	341	71	
211	115	178	0	0	19	43	152		
220	0	8	20	0	41		500	100	
140	35	20	50	100	14	29	1050	40	10
1120	181	365	309	350	22	39	205	45	9
80	0	220	40	0	62		155	50	
961	101	0	152	288	14	59		59	3
327	88	50	153	460	31	45	1580	52	20
						494	272	223	32
						763	834	272	223
								381	251
									272
									291
									301
									494
									763

TABLE J.16

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

VETERINARY MEDICINE

	<NUMBER OF ALLOCATED STUDENT STATIONS				>	<NASF PER ALLOCATED STUDENT STATION			
	CLASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)
TOTAL	6390	6314	985	1157	1324	17	55	519	46
NUMBER OF SCHOOLS	19	19	19	19	19	14	18	15	14
MEAN	336	332	52	61	70	16	54	622	43
HIGH	1154	578	228	206	310	29	149	1017	88
LOW	0	0	0	0	0	9	0	145	0
002	403	438	44	59	264	22	4[illegible]	864	68
021	651	578	30	112	0	11	60	733	36
043	0	10	0	0	0		0		
061	166	169	14	32	200	18	53	786	31
165	557	486	60	125	310	9	78	1017	88
243	336	483	46	116	0	12	46	500	52
292	0	508	40	0	0		57	775	
321	0	94	86	0	0		149	512	
354	1154	490	62	143	0	29	53	403	42
363	288	288	54	206	0	28	18	889	10
392	300	360	74	67	0	17	50	243	45
424	230	248	60	50	300	13	81	383	40
442	574	393	228	40	0	10	61	145	50
502	200	300	25	40	250	15	13	640	0
545	0	259	30	55	0		69	700	73
551	933	507	132	2	0	13	69	735	0
622	48	256	0	0	0	21	16		
784	550	447	0	110	0	11	58		73
851	0	0	0	0	0				
SCHOOLS FOR WHICH VALUES ARE UNDEFINED						43 292 321 545 851	851	43 622 784 851	43 292 321 622 851

TABLE J.16

DETAILING OF STUDENT STATIONS BY ROOM-TYPE:
FALL, 1973

••••••NUMBER OF ALLOCATED STUDENT STATIONS•••••••••					><••••••••••NASF PER ALLOCATED STUDENT STATION•••••••••••>				
LASSROOM (1)	CLASSLAB (2)	RESEARCH AND RESEARCH TRAINING (3)	LIBRARY (4)	AUDITORIA (5)	CLASSROOM (6)	CLASSLAB (7)	RESEARCH AND RESEARCH TRAINING (8)	LIBRARY (9)	AUDITORIA (10)
6390	6314	985	1157	1324	17	55	519	46	10
19	19	19	19	19	14	18	15	14	5
336	332	52	61	70	16	54	622	43	9
1154	578	228	206	310	29	149	1017	88	17
0	0	0	0	0	9	0	145	0	4
403	438	44	59	264	22	48	864	68	8
651	578	30	112	0	11	66	733	36	
0	10	0	0	0		0			
166	169	14	32	200	18	53	786	31	5
557	486	60	125	310	9	78	1017	88	13
336	403	46	116	[illegible]	12	46	500	52	
0	508	48	0	0		57	775		
0	94	86	0	0		149	512		
1154	490	62	143	0	29	53	403	42	
288	288	54	206	0	28	10	889	10	
300	360	74	67	0	17	50	243	45	
230	248	60	50	300	13	81	383	40	17
574	393	228	40	0	10	61	145	50	
200	300	25	40	250	15	13	640	0	4
0	259	30	55	0		69	700	73	
933	507	132	2	0	13	69	735	0	
48	256	0	0	0	21	16			
550	447	0	110	0	11	58		73	
0	0	0	0	0					
					43	851	43	43	21
					292		622	292	43
					321		784	321	243
					545		851	622	292
					851			851	321
									354
									363
									392
									442
									545
									551
									622
									784
									851

FOOTNOTES

DETAILING OF STUDENT STATIONS BY ROOM TYPE

1. In this and all other columns, the number of student stations reported (and used in the computation of NASF per station) excludes any student stations available for use on a "shared" basis (i.e., joint-use), a typical situation in the case of library and auditoria. For those schools which have a large number of student stations available on a joint-use basis, the number reported in any of columns 1-5 may thus appear low.

TABLE J.17

INSTRUCTION RESOURCES IN CLINICAL AREAS

DENTISTRY

	NUMBER OF TEACHING BEDS REPORTED (1)	NUMBER OF AMBULATORY PATIENT STATIONS (2)	NASF (000) OF "ONSITE PATIENT CARE" FACILITIES (3)	NASF (000) OF INSTRUCTIONAL SPACE (EXCL.PAT. CARE AREA) (4)	PERCENTAGE OF COL.4 CONSIDERED SATISFACTORY (5)	PERCENTAGE OF COL.4 NEEDING REMODELING (6)	PERCENTAGE OF COL.4 NEEDING REPLACEMENT (7)	INSTRUCT. SPACE NEEDED IN CLINICAL AREAS (POST-CON) (8)
TOTAL	6416	11004	1235	200	80	8	10	138
NUMBER OF SCHOOLS	53	53	53	53	17	17	17	53
MEAN	121	208	23	4	61	21	15	3
HIGH	3578	703	62	62	100	100	150	74
LOW	0	0	0	0	0	0	0	0
081	0	141	20	0				0
085	29	199	19	0				0
102	2	328	32	0				0
124	487	247	42	0				0
132	0	161	24	0				0
135	0	19	0	0				0
192	0	9	2	0				0
193	18	236	24	11	0	0	100	5
231	20	158	10	13	69	15	0	1
242	0	364	53	0				0
244	0	220	27	0				0
305	11	369	48	0				0
314	8	584	62	0				0
335	0	33	5	0				0
352	0	439	44	1	100	0	0	1
361	5	312	25	1	0	100	0	0
383	18	378	34	54	98	0	0	1
423	0	113	17	0				0
445	117	239	37	4	100	0	0	7
462	8	265	50	1	100	0	0	2
471	0	269	23	0				0
473	7	98	11	1	100	0	0	0
474	0	28	5	0				0
491	22	375	39	0				0
513	0	147	17	0				0
552	2	201	15	3	100	0	0	1
564	0	223	15	0				0
565	1	147	16	0				7
591	0	0	0	0				0
592	0	322	37	2	0	0	150	3
603	0	0	40	0				0
605	2	256	25	0				0
633	970	166	38	0				0
641	0	38	0	0				0
642	64	21	29	0				0
701	415	327	45	1	0	100	0	0
704	0	209	19	0				0
715	0	0	0	0				0
733	0	186	10	0				0
751	12	372	28	0				33
764	140	210	24	5	100	0	0	0
792	62	392	39	0				0
804	0	258	20	0				0
821	0	37	7	0				0

TABLE J.17 (Continued)

INSTRUCTION RESOURCES IN CLINICAL AREAS

DENTISTRY

(CONTINUED)

	NUMBER OF TEACHING BEDS REPORTED (1)	NUMBER OF AMBULATORY PATIENT STATIONS (2)	NASF (000) OF "ONSITE PATIENT CARE" FACILITIES (3)	NASF (000) OF INSTRUCTIONAL SPACE (EXCL.PAT. CARE AREA) (4)	PERCENTAGE OF COL.4 CONSIDERED SATISFACTORY (5)	PERCENTAGE OF COL.4 NEEDING REMODELING (6)	PERCENTAGE OF COL.4 NEEDING REPLACEMENT (7)	INSTRUCT. SPACE NEEDED IN CLINICAL AREAS (POST-CON) (8)
832	0	72	7	0				0
853	3578	703	25	62	74	16	10	74
854	11	175	21	0				0
862	0	46	3	0				0
911	373	228	32	32	100	0	0	0
913	4	190	8	5	100	0	0	0
941	5	305	35	1	0	100	0	0
942	19	37	0	3	8	33	0	0
944	6	152	23	0				3
								0
SCHOOLS FOR WHICH VALUES ARE UNDEFINED					81	81	81	
					85	85	85	
					102	102	102	
					124	124	124	
					132	132	132	
					135	135	135	
					192	192	192	
					242	242	242	
					244	244	244	
					305	305	305	
					314	314	314	
					335	335	335	
					423	423	423	
					471	471	471	
					474	474	474	
					491	491	491	
					513	513	513	
					564	564	564	
					565	565	565	
					591	591	591	
					603	603	603	
					605	605	605	
					633	633	633	
					641	641	641	
					642	642	642	
					704	704	704	
					715	715	715	
					733	733	733	
					751	751	751	
					792	792	[illegible]	
					804	804	804	
					821	821	[illegible]	
					832	832		
					854	854	[illegible]	
					862	862	862	
					944	944	944	

TABLE J.18

INSTRUCTION RESOURCES IN CLINICAL AREAS

MEDICINE

	NUMBER OF TEACHING BEDS REPORTED (1)	NUMBER OF AMBULATORY PATIENT STATIONS (2)	NASF (000) OF "ONSITE PATIENT CARE" FACILITIES (3)	NASF (000) OF INSTRUCTIONAL SPACE (EXCL.PAT. CARE AREA) (4)	PERCENTAGE OF COL.4 CONSIDERED SATISFACTORY (5)	PERCENTAGE OF COL.4 NEEDING REMODELING (6)	PERCENTAGE OF COL.4 NEEDING REPLACEMENT (7)	INSTRUCT. SPACE NEEDED IN CLINICAL AREAS (POST-CON) (8)
TOTAL	178941	19353	1716	5448	72	14	8	1755
NUMBER OF SCHOOLS	95	95	95	95	81	81	81	95
MEAN	1884	204	18	57	75	12	7	18
HIGH	7574	2000	466	487	100	80	100	318
LOW	0	0	0	0	0	0	0	0
022	0	0	1	60	0	0	0	0
023	6508	128	0	46	100	0	0	0
024	2878	154	13	41	100	0	0	0
025	1129	0	0	0				0
054	6997	250	6	0				0
055	397	389	0	12	0	0	100	280
074	2960	186	4	138	90	0	10	7
091	656	24	0	50	20	50	30	65
094	2019	1058	466	8	75	25	0	63
095	2323	272	44	58	100	0	0	0
112	4667	160	0	0				0
121	305	36	0	5	100	0	0	5
133	4780	500	24	257	70	6	23	92
134	1671	180	0	5	100	0	0	3
141	979	56	180	30	93	0	7	4
142	2481	181	35	96	93	5	1	24
145	2993	206	10	248	83	0	0	10
152	2893	59	0	21	67	10	24	0
153	1550	2000	0	0				0
172	1558	14	2	0				0
184	596	93	0	9	100	0	0	0
203	3126	389	0	161	70	3	27	20
212	660	387	0	5	80	20	0	33
215	1502	258	61	3	100	0	0	0
222	2634	188	0	38	100	0	0	0
224	1076	0	0	0				0
241	2242	246	5	12	92	8	0	5
252	7574	361	6	8	0	50	50	32
254	0	0	0	0				0
275	3119	397	2	44	100	0	0	7
283	939	30	0	5	60	20	20	14
295	2246	270	0	87	29	55	16	0
311	636	52	0	11	55	45	0	17
315	870	101	3	18	100	0	0	0
324	3351	368	2	119	73	25	2	318
333	1295	123	15	94	59	16	7	0
341	1227	93	2	10	50	50	0	0
345	1352	24	0	23	100	0	0	24
362	578	181	17	114	50	25	25	0
371	2776	174	43	111	92	[illegible]	0	3
374	3793	348	0	75	100	0	0	5
393	650	33	0	111	100	0	0	0
395	512	49	0	19	100	0	0	0
401	1498	78	0	95	93	1	6	21

TABLE J.18 (Continued)

INSTRUCTION RESOURCES IN CLINICAL AREAS

MEDICINE

(CONTINUED)

	NUMBER OF TEACHING BEDS RE-PORTED (1)	NUMBER OF AMBULATORY PATIENT STATIONS (2)	NASF (000) OF "ONSITE PATIENT CARE" FACILITIES (3)	NASF (000) OF IN-STRUCTION-AL SPACE (EXCL.PAT. CARE AREA) (4)	PERCENTAGE OF COL.4 CONSIDERED SATIS-FACTORY (5)	PERCENTAGE OF COL.4 NEEDING REMODELING (6)	PERCENTAGE OF COL.4 NEEDING REPLACE-MENT (7)	INSTRUCT. SPACE NEEDED IN CLINICAL AREAS (POST-CON) (8)
415	3397	250	10	19	89	5	5	10
433	2273	438	39	109	89	11	0	12
455	4467	491	0	54	52	48	0	6
472	1152	287	11	90	29	3	0	0
483	810	97	0	57	44	0	56	93
484	1004	80	0	62	68	6	24	0
522	1209	271	0	83	84	16	0	0
531	1173	242	348	78	97	3	0	10
543	1787	164	0	45	100	0	0	0
562	1149	201	3	28	100	0	0	84
563	0	12	0	16	100	0	0	0
574	937	238	19	90	100	1	0	0
575	1281	123	0	84	75	25	0	60
583	200	0	0	9	100	0	0	0
602	1260	275	6	16	94	6	0	0
613	2550	252	0	41	32	41	29	11
624	1357	65	0	29	100	0	0	0
635	1877	160	0	0				0
651	1951	12	0	75	77	0	0	0
652	1908	212	0	37	51	30	19	36
653	727	8	0	6	100	0	0	7
664	2101	271	1	71	100	0	0	0
671	1316	41	36	0				0
672	1094	124	0	41	0	0	0	0
683	1019	143	1	39	41	59	0	3
711	1989	86	0	30	20	80	0	45
714	3570	474	2	43	88	9	2	25
731	546	146	0	198	100	0	0	0
743	903	140	0	85	75	22	2	26
744	3621	358	253	75	79	0	11	22
761	1263	163	1	0				0
772	0	0	18	0				0
774	2090	251	0	173	82	11	5	11
783	2474	499	0	0				0
802	2145	401	0	51	28	0	0	59
813	2674	111	0	114	85	3	13	0
823	3388	38	7	2	100	0	0	0
831	861	153	0	119	100	0	0	18
863	3608	31	0	0				17
864	2061	102	0	18	100	0	0	2
872	1761	146	0	487	23	53	24	0
891	818	28	0	44	89	11	0	0
903	0	0	6	0				0
904	1766	28	0	100	58	23	9	2
921	2134	254	12	198	100	0	0	5
951	1602	486	10	59	31	69	0	5
952	4509	54	0	49	96	2	2	0
953	350	114	0	42	100	0	0	0
954	451	380	0	18	0	0	0	0
962	1241	52	0	35	97	0	3	0
973	1121	314	0	82	100	0	0	134

TABLE J.18 (Continued)

INSTRUCTION RESOURCES IN CLINICAL AREAS

MEDICINE

(CONTINUED)

	NUMBER OF TEACHING BEDS RE-PORTED (1)	NUMBER OF AMBULATORY PATIENT STATIONS (2)	NASF (000) OF "ONSITE PATIENT CARE" FACILITIES (3)	NASF (000) OF IN-STRUCTION-AL SPACE (EXCL.PAT. CARE AREA) (4)	PERCENTAGE OF COL.4 CONSIDERED SATIS-FACTORY (5)	PERCENTAGE OF COL.4 NEEDING REMODELING (6)	PERCENTAGE OF COL.4 NEEDING REPLACE-MENT (7)	INSTRUCT. SPACE NEEDED IN CLINICAL AREAS (POST-CON) (8)
SCHOOLS FOR WHICH VALUES ARE UNDEFINED					25	25	25	
					54	54	54	
					112	112	112	
					153	153	153	
					172	172	172	
					224	224	224	
					254	254	254	
					635	635	635	
					671	671	671	
					761	761	761	
					772	772	772	
					783	783	783	
					863	863	863	
					903	903	903	

TABLE J.19

INSTRUCTION RESOURCES IN CLINICAL AREAS

OPTOMETRY

	NUMBER OF TEACHING BEDS REPORTED (1)	NUMBER OF AMBULATORY PATIENT STATIONS (2)	NASF (000) OF "ONSITE PATIENT CARE" FACILITIES (3)	NASF (000) OF INSTRUCTIONAL SPACE (EXCL.PAT. CARE AREA) (4)	PERCENTAGE OF COL.4 CONSIDERED SATISFACTORY (5)	PERCENTAGE OF COL.4 NEEDING REMODELING (6)	PERCENTAGE OF COL.4 NEEDING REPLACEMENT (7)	INSTRUCT. SPACE NEEDED IN CLINICAL AREAS (POST-CON) (8)
TOTAL	120	742	85	7	100	0	0	5
NUMBER OF SCHOOLS	10	10	10	10	3	3	3	10
MEAN	12	74	8	1	100	0	0	0
HIGH	120	240	35	4	100	0	0	4
LOW	0	20	0	0	100	0	0	0
065	0	96	15	0				0
072	120	240	35	4	100	0	0	1
101	0	26	4	0				0
211	0	121	0	2	100	0	0	0
235	0	64	9	0				0
281	0	48	5	0				0
334	0	54	13	0				0
634	0	43	0	0				0
892	0	30	4	1	100	0	0	0
933	0	20	0	0				4
SCHOOLS FOR WHICH VALUES ARE UNDEFINED					65 101 235 281 334 634 933	65 101 235 281 334 634 933	65 101 235 281 334 634 933	

TABLE J.20

INSTRUCTION RESOURCES IN CLINICAL AREAS

OSTEOPATHY

	NUMBER OF TEACHING BEDS REPORTED (1)	NUMBER OF AMBULATORY PATIENT STATIONS (2)	NASF (000) OF "ONSITE PATIENT CARE" FACILITIES (3)	NASF (000) OF INSTRUCTIONAL SPACE (EXCL.PAT. CARE AREA) (4)	PERCENTAGE OF COL.4 CONSIDERED SATISFACTORY (5)	PERCENTAGE OF COL.4 NEEDING REMODELING (6)	PERCENTAGE OF COL.4 NEEDING REPLACEMENT (7)	INSTRUCT. SPACE NEEDED IN CLINICAL AREAS (POST-CON) (8)
TOTAL	8739	390	218	61	90	0	5	0
NUMBER OF SCHOOLS	5	5	3	5	3	3	3	5
MEAN	1748	78	44	12	62	0	35	0
HIGH	4028	141	143	39	100	0	100	0
LOW	145	9	0	0	0	0	0	0
033	4028	141	0	0				0
062	294	54	143	0				0
293	930	45	0	21	100	0	0	0
303	3342	141	74	39	87	0	5	0
402	145	9	1	1	0	0	100	0
SCHOOLS FOR WHICH VALUES ARE UNDEFINED					33 62	33 62	33 62	

TABLE J.21

INSTRUCTION RESOURCES IN CLINICAL AREAS

PHARMACY

	NUMBER OF TEACHING BEDS REPORTED (1)	NUMBER OF AMBULATORY PATIENT STATIONS (2)	NASF (000) OF "ONSITE PATIENT CARE" FACILITIES (3)	NASF (000) OF INSTRUCTIONAL SPACE (EXCL.PAT. CARE AREA) (4)	PERCENTAGE OF COL.4 CONSIDERED SATISFACTORY (5)	PERCENTAGE OF COL.4 NEEDING REMODELING (6)	PERCENTAGE OF COL.4 NEEDING REPLACEMENT (7)	INSTRUCT. SPACE NEEDED IN CLINICAL AREAS (POST-CON) (8)
TOTAL	38011	1011	3	244	68	18	8	88
NUMBER OF SCHOOLS	64	64	64	64	29	29	29	54
MEAN	594	16	0	4	70	18	6	1
HIGH	5419	123	1	48	100	100	100	15
LOW	0	0	0	0	0	0	0	0
005	12	0	0	[illegible]				0
011	175	0	0	0				0
041	0	0	0	0				0
052	70	2	1	0				0
125	1154	34	0	12	75	42	0	2
143	110	101	0	2	100	0	0	0
144	1410	5	0	11	45	45	9	5
151	120	26	0	6	100	0	0	8
181	120	10	0	3	100	6	0	0
195	334	14	0	0				0
204	315	7	0	20	80	20	0	5
213	3111	5	0	3	100	0	0	0
245	0	0	0	0				0
262	335	37	0	1	100	0	0	7
263	280	6	0	0				0
265	0	0	0	0				0
274	2599	52	1	1	100	0	0	0
313	140	120	0	0				0
344	2621	88	0	31	71	19	10	9
375	195	15	0	0				0
382	126	0	0	1	100	0	0	0
384	192	0	0	2	0	0	0	0
403	400	5	0	2	50	50	0	6
404	15	0	0	0				0
422	700	0	0	0				0
453	0	0	0	0				0
454	1130	10	0	4	25	75	0	7
462	0	0	0	0				0
465	350	4	0	2	0	100	0	0
482	405	21	0	0				2
483	1016	0	0	1	0	0	100	0
511	600	20	0	7	100	0	0	0
514	634	18	0	1	100	0	0	0
523	309	123	0	1	100	0	0	0
532	0	0	0	0				0
535	0	0	0	0				0
571	37	4	0	4	100	0	0	1
572	421	0	0	0				3
585	440	95	0	29	76	24	0	0
594	150	5	0	3	100	0	0	4
621	404	3	0	48	56	17	29	6
645	200	0	0	0				0
663	2329	0	0	0				0
665	12	0	0	0				0

TABLE J.21 (Continued)

INSTRUCTION RESOURCES IN CLINICAL AREAS

PHARMACY

(CONTINUED)

	NUMBER OF TEACHING BEDS RE-PORTED (1)	NUMBER OF AMBULATORY PATIENT STATIONS (2)	NASF (000) OF "ONSITE PATIENT CARE" FACILITIES (3)	NASF (000) OF IN-STRUCTION-AL SPACE (EXCL.PAT. CARE AREA) (4)	PERCENTAGE OF COL.4 CONSIDERED SATIS-FACTORY (5)	PERCENTAGE OF COL.4 NEEDING REMODELING (6)	PERCENTAGE OF COL.4 NEEDING REPLACE-MENT (7)	INSTRUCT. SPACE NEEDED IN CLINICAL AREAS (POST-CON) (8)
684	720	0	0	0				0
692	60	2	0	0				3
693	0	30	0	1	0	100	0	1
703	0	0	0	0				0
724	661	0	0	0				1
742	0	0	0	0				0
753	0	0	0	0				0
801	0	0	0	0				0
812	200	0	0	1	100	0	0	1
824	1789	0	0	0				0
841	0	15	0	18	89	11	0	0
874	0	0	0	0				0
883	0	0	0	0				0
902	828	2	0	0				0
922	0	0	0	0				0
923	822	0	0	7	71	14	14	15
971	2258	73	1	8	100	0	0	0
982	5419	0	0	0				0
984	1540	56	0	14	0	0	0	0
991	783	3	0	0				2

SCHOOLS FOR WHICH VALUES ARE UNDEFINED	(5)	(6)	(7)
	5	5	5
	11	11	11
	41	41	41
	52	52	52
	195	195	195
	245	245	245
	263	263	263
	265	265	265
	313	313	313
	375	375	375
	404	404	404
	422	422	422
	453	453	453
	461	461	461
	482	482	482
	532	532	532
	535	535	535
	572	572	572
	645	645	645
	663	663	663
	665	665	665
	684	684	684
	692	692	692
	703	703	703
	724	724	724
	742	742	742
	753	753	753
	801	801	801
	824	824	824
	874	874	874
	883	883	883
	902	902	902
	922	922	922
	982	982	982
	991	991	991

TABLE J.22

INSTRUCTION RESOURCES IN CLINICAL AREAS

PODIATRY

	NUMBER OF TEACHING BEDS REPORTED (1)	NUMBER OF AMBULATORY PATIENT STATIONS (2)	NASF (000) OF "ONSITE PATIENT CARE" FACILITIES (3)	NASF (000) OF INSTRUCTIONAL SPACE (EXCL.PAT. CARE AREA) (4)	PERCENTAGE OF COL.4 CONSIDERED SATISFACTORY (5)	PERCENTAGE OF COL.4 NEEDING REMODELING (6)	PERCENTAGE OF COL.4 NEEDING REPLACEMENT (7)	INSTRUCT. SPACE NEEDED IN CLINICAL AREAS (POST-CON) (8)
TOTAL	4997	351	31	1	0	0	100	5
NUMBER OF SCHOOLS	5	5	5	5	1	1	1	5
MEAN	999	70	6	0	0	0	100	1
HIGH	2446	145	18	1	0	0	100	5
LOW	28	22	0	0	0	0	100	0
082	350	68	18	0				0
191	28	22	0	1	0	0	100	5
264	2446	55	5	0				0
644	1490	145	3	0				0
833	683	61	5	0				0
SCHOOLS FOR WHICH VALUES ARE UNDEFINED					82 264 644 833	82 264 644 833	82 264 644 833	

TABLE J.23

INSTRUCTION RESOURCES IN CLINICAL AREAS

PUBLIC HEALTH

	NUMBER OF TEACHING BEDS REPORTED (1)	NUMBER OF AMBULATORY PATIENT STATIONS (2)	NASF (000) OF "ONSITE PATIENT CARE" FACILITIES (3)	NASF (000) OF INSTRUCTIONAL SPACE (EXCL.PAT. CARE AREA) (4)	PERCENTAGE OF COL.4 CONSIDERED SATISFACTORY (5)	PERCENTAGE OF COL.4 NEEDING REMODELING (6)	PERCENTAGE OF COL.4 NEEDING REPLACEMENT (7)	INSTRUCT. SPACE NEEDED IN CLINICAL AREAS (POST-CON) (8)
TOTAL	230	23	1	5	0	0	0	0
NUMBER OF SCHOOLS	13	13	13	13	1	1	1	13
MEAN	18	2	0	0	0	0	0	0
HIGH	230	20	1	5	0	0	0	0
LOW	0	0	0	0	0	0	0	0
032	0	0	0	0				0
154	0	0	0	0				0
223	0	0	0	0				0
251	0	3	1	0				0
272	0	0	0	0				0
291	0	0	0	0				0
381	0	0	0	0				0
494	230	20	0	5	0	0	0	0
681	0	0	0	0				0
762	0	0	0	0				0
763	0	0	0	0				0
834	0	0	0	0				0
882	0	0	0	0				0
SCHOOLS FOR WHICH VALUES ARE UNDEFINED					32	32	32	
					154	154	154	
					223	223	223	
					251	251	251	
					272	272	272	
					291	291	291	
					381	381	381	
					681	681	681	
					762	762	762	
					763	763	763	
					834	834	834	
					882	882	882	

TABLE J.24

INSTRUCTION RESOURCES IN CLINICAL AREAS

VETERINARY MEDICINE

	NUMBER OF TEACHING BEDS REPORTED (1)	NUMBER OF AMBULATORY PATIENT STATIONS (2)	NASF (000) OF "ONSITE PATIENT CARE" FACILITIES (3)	NASF (000) OF INSTRUCTIONAL SPACE (EXCL.PAT. CARE AREA) (4)	PERCENTAGE OF COL.4 CONSIDERED SATISFACTORY (5)	PERCENTAGE OF COL.4 NEEDING REMODELING (6)	PERCENTAGE OF COL.4 NEEDING REPLACEMENT (7)	INSTRUCT. SPACE NEEDED IN CLINICAL AREAS (POST-CON) (8)
TOTAL	3406	388	274	288	84	9	6	181
NUMBER OF SCHOOLS	19	19	19	19	8	8	8	19
MEAN	179	20	14	15	87	8	5	10
HIGH	405	133	54	113	100	58	42	101
LOW	0	0	0	0	0	0	0	0
002	201	13	31	0				0
021	253	15	0	37	95	5	0	51
043	234	18	0	113	100	0	0	0
061	93	10	11	0				0
165	255	26	0	15	100	0	0	0
243	149	8	24	0				0
292	334	12	46	0				0
321	405	36	0	9	100	0	0	5
354	309	19	54	0				0
363	148	12	0	22	100	0	0	101
392	195	133	0	17	100	0	0	6
424	98	17	18	0				0
442	158	12	0	43	0	58	42	12
502	0	0	5	0				0
545	150	7	52	0				0
551	215	40	33	0				0
622	0	0	0	0				0
704	209	10	0	32	100	0	0	6
851	0	0	0	0				0
SCHOOLS FOR WHICH VALUES ARE UNDEFINED					2	2	2	
					61	61	61	
					243	243	243	
					292	292	292	
					354	354	354	
					424	424	424	
					502	502	502	
					545	545	545	
					551	551	551	
					622	622	622	
					851	851	851	

FOOTNOTES
INSTRUCTION RESOURCES IN CLINICAL AREAS

1. The figure displayed represents the number of teaching beds reported as available for use in either "on-site patient care facilities", owned and major affiliated hospitals, or "minor" affiliates. For schools of veterinary medicine, substitute "Animal Holding Units" for "beds".

2. The number displayed is obtained by adding the reported numbers of ambulatory patient stations available in "on-site patient care" facilities, and affiliated hospitals and clinics.

3. The figure displayed represents those patient care areas which are considered by respondent to be a physically integrated portion of the school's "allocated" facilities. "On-site patient care" facilities were found to be the primary clinically-oriented facilities resource for schools of dentistry, optometry, and podiatry.

4. The figure displayed represents the sum, over all owned and major affiliated hospitals (reported as physically separated from basic biological sciences instruction facilities), of classroom, class laboratory, research and research training, and other instructional facilities.

5. The sum of columns 5-7 will occasionally not sum to 100% due to round-off error, and data errors uncorrectable at the time of this writing.

8. Each figure displayed represents the NASF (in 000's) of nonclinical instruction facilities felt to be needed in (physically separate) owned and major affiliated hospitals, following the completion of hospital-related ongoing construction and remodeling efforts.

TABLE J.25

USAGE OF FACILITIES - SECTION 1

DENTISTRY

	FULL-TIME EQUIVALENT ENROLLMENT (1)	ALLOCATED NASF PER STUDENT (2)	ALLOCATED STUDENT STATIONS, CLASSROOMS AND CLASSLABS (3)	ALLOCATED CLASSROOM AND CLASS-LAB STATIONS PER STUDENT (4)	NUMBER OF JOINT-USE STATIONS UTILIZED (5)	STUDENT CONTACT-HOURS SPENT IN CLSRMS AND CLASSLABS (6)	STUDENT CONTACT-HOURS SPENT IN PATIENT AREAS (7)
TOTAL	18546	131	35563	1.92	29906	160539	128670
NUMBER OF SCHOOLS	53	50	53	50	53	53	53
MEAN	350	202	671	2.19	564	3029	2428
HIGH	792	1750	2169	11.00	2048	5830	7300
LOW	0	0	0	0.00	0	0	0
081	303	145	356	1.17	1726	3979	2598
085	458	50	538	1.17	695	4493	2796
102	558	102	1214	2.18	165	5250	6506
124	328	232	911	2.78	392	3750	2163
132	396	78	587	1.48	160	3034	132
135	479	140	1573	3.28	400	2986	1806
192	24	1750	166	6.92	0	1340	100
193	535	73	516	0.96	1087	3160	3860
231	316	66	604	1.91	875	3285	2157
242	541	128	280	0.52	1640	4140	3720
244	376	223	1114	2.96	0	3538	3012
305	522	148	735	1.41	0	2672	1958
314	648	123	2169	3.35	180	5830	2970
335	62	129	144	2.32	610	2444	754
352	583	99	1200	2.06	1023	4356	3638
361	414	118	586	1.42	1143	2915	4354
383	655	102	959	1.46	0	2204	3219
423	249	112	492	1.98	63	3461	3536
445	419	138	938	2.24	178	2665	1840
462	359	134	452	1.26	1440	3504	3373
471	457	123	1343	2.94	0	2938	4030
473	223	58	331	1.48	821	3751	2753
474	24	1000	264	11.00	0	961	220
491	549	117	1435	2.61	0	2304	2041
513	272	118	720	2.65	0	3508	2187
552	234	124	427	1.82	1337	2574	2043
564	348	161	1210	3.48	0	5306	2398
565	249	48	121	0.49	2048	2880	1516
591	0		0		0	0	0
592	326	160	718	2.20	180	4442	1570
603	249	129	484	1.94	120	2066	2048
605	560	75	1999	3.57	0	2788	1938
633	308	162	863	2.80	0	3650	2550
641	97	691	283	2.92	824	4138	2170
642	236	369	584	2.47	0	2623	2044
701	474	105	839	1.77	1751	2287	2548
704	567	65	450	0.79	0	3082	2722
715	0		0		0	0	0
733	252	87	258	1.02	249	2713	2341
751	392	66	495	1.26	1005	2992	1662
764	651	135	1189	1.83	374	2509	2401
792	542	260	736	1.36	0	3540	3237
804	505	145	1596	3.16	1230	2940	2360
821	26	423	56	2.15	776	2714	1704

TABLE J.26

USAGE OF FACILITIES - SECTION 1

MEDICINE

	FULL-TIME EQUIVALENT ENROLLMENT (1)	ALLOCATED NASF PER STUDENT (2)	ALLOCATED STUDENT STATIONS, CLASSROOMS AND CLASSLABS (3)	ALLOCATED CLASSROOM AND CLASS-LAB STATIONS PER STUDENT (4)	NUMBER OF JOINT-USE STATIONS UTILIZED (5)	STUDENT CONTACT-HOURS SPENT IN CLSRMS AND CLASSLABS (6)	STUDENT CONTACT-HOURS SPENT IN PATIENT AREAS (7)
TOTAL	46888	394	99850	2.13	29136	255719	277111
NUMBER OF SCHOOLS	95	94	95	94	95	95	95
MEAN	494	433	1051	2.20	307	2692	2917
HIGH	1571	1738	3220	8.28	3444	7596	8400
LOW	0	0	0	0.00	0	0	0
022	212	491	756	3.57	353	5684	384
023	339	162	90	0.27	375	1999	4554
024	453	419	1354	2.99	0	2802	1677
025	146	322	250	1.71	156	2851	0
054	597	873	1947	3.26	0	2638	1995
055	337	504	890	2.64	0	3003	2272
074	578	638	1792	3.10	0	3350	492
091	352	273	8	0.02	439	1800	2000
094	425	1179	679	1.60	0	3325	2314
095	585	217	616	1.05	3444	2351	2640
112	603	294	1020	1.69	38	3700	3260
121	25	720	61	2.44	0	1120	0
133	1040	478	3220	3.10	0	3620	3380
134	575	494	1969	3.42	0	2245	2750
141	324	824	771	2.38	0	1780	5260
142	736	323	1481	2.01	266	1914	3992
145	546	463	1457	2.67	0	3254	4078
152	419	60	214	0.51	0	1517	4357
153	40	225	80	2.00	0	1474	116
172	0		0		0	0	0
184	379	425	297	0.78	0	1869	560
203	865	455	2431	2.81	1960	5200	4000
212	415	0	0	0.00	845	1283	181
215	61	1738	505	8.28	36	2850	1600
222	365	200	785	2.15	0	2181	3758
224	176	335	642	3.65	0	2853	128
241	514	282	2326	4.53	370	3230	2045
252	1211	230	1023	0.84	1731	0	0
254	617	480	1345	2.18	0	2842	0
275	601	468	1196	1.99	0	2846	2692
283	489	434	1368	2.80	0	3244	2426
295	786	407	2300	2.93	100	3129	2406
311	395	273	590	1.49	0	4959	2722
315	129	535	416	3.22	705	1859	1403
324	1017	252	1849	1.82	0	4898	7766
333	663	327	1975	2.98	380	2718	3852
341	310	294	253	0.82	0	3084	[illegible]00
345	469	463	894	1.91	0	3934	[illegible]60
362	1571	129	2042	1.30	0	1952	3363
371	746	484	2800	3.75	0	2564	3736
374	615	686	2750	4.47	0	3173	3416
393	84	310	96	1.14	150	0	5920
395	301	502	896	2.98	0	153[illegible]	5096
401	314	557	436	1.39	0	5110	2837

TABLE J.26 (Continued)

USAGE OF FACILITIES - SECTION 1

(CONTINUED)

MEDICINE

	FULL-TIME EQUIVALENT ENROLLMENT (1)	ALLOCATED NASF PER STUDENT (2)	ALLOCATED STUDENT STATIONS, CLASSROOMS AND CLASSLABS (3)	ALLOCATED CLASSROOM AND CLASSLAB STATIONS PER STUDENT (4)	NUMBER OF JOINT-USE STATIONS UTILIZED (5)	STUDENT CONTACT-HOURS SPENT IN CLSRMS AND CLASSLABS (6)	STUDENT CONTACT-HOURS SPENT IN PATIENT AREAS (7)
415	527	529	1433	2.72	0	3092	2901
433	573	771	1610	2.81	0	7596	3096
455	767	115	108	0.14	1067	2035	47
472	645	719	2878	4.46	0	2280	3858
483	418	158	620	1.48	426	2638	[illegible]193
484	822	187	901	1.10	0	1719	2622
522	686	293	1512	2.20	0	2585	3410
531	446	901	989	2.22	0	1975	5800
543	695	206	1013	1.46	253	4918	4600
562	447	300	293	0.66	1676	3110	4130
563	93	323	273	2.94	0	1178	210
574	473	617	1433	3.03	0	3710	2197
575	314	172	804	2.56	2048	2660	4466
583	150	727	386	2.57	0	3715	3100
602	590	164	150	0.25	630	2197	2920
613	447	360	670	1.50	0	2119	4350
624	358	372	628	1.75	0	421[illegible]	2342
635	784	443	589	0.75	749	1987	4465
651	161	404	0	0.00	897	1994	4400
652	566	253	1376	2.43	0	2462	2234
653	234	756	420	1.79	0	2353	3960
664	283	777	728	2.57	0	2012	3855
671	395	1035	702	1.78	0	2290	1890
672	154	175	52	0.34	0	3144	3198
683	243	473	726	2.99	0	3374	5448
711	705	68	664	0.94	1751	3496	3894
714	860	231	1012	1.18	0	3094	2212
731	522	372	2494	4.78	0	3432	995
743	698	464	3177	4.55	46	1307	4320
744	863	473	2815	3.26	0	2749	2940
761	519	254	1005	1.94	0	3112	3284
772	542	908	1522	2.81	0	0	0
774	644	446	1369	2.13	0	1883	5282
783	393	746	1769	4.50	0	2[illegible]75	3085
802	703	256	1192	1.70	0	2504	4360
813	238	269	177	0.74	0	3272	3322
823	615	358	1400	2.28	0	4349	3325
831	421	444	592	1.41	630	2975	4237
863	751	269	1691	2.25	0	2750	6090
864	479	232	2085	4.35	105	3022	1774
872	637	619	2230	3.50	0	0	0
891	79	418	184	2.33	0	1802	3650
903	671	294	1553	2.31	2000	2064	0
904	115	957	476	4.14	70	2438	2300
921	448	511	1591	3.55	0	4237	4865
951	567	286	422	0.74	1442	3081	4044
952	624	120	0	0.00	1099	2690	2010
953	979	297	1569	1.60	0	2680	2400
954	531	288	0	0.00	2099	3084	3543
962	64	422	96	1.50	0	1943	1450
973	524	227	601	1.15	800	2624	2641
SCHOOLS FOR WHICH VALUES ARE UNDEFINED		172		172			

TABLE J.27

USAGE OF FACILITIES - SECTION 1

OPTOMETRY

	FULL-TIME EQUIVALENT ENROLLMENT (1)	ALLOCATED NASF PER STUDENT (2)	ALLOCATED STUDENT STATIONS, CLASSROOMS AND CLASSLABS (3)	ALLOCATED CLASSROOM AND CLASSLAB STATIONS PER STUDENT (4)	NUMBER OF JOINT-USE STATIONS UTILIZED (5)	STUDENT CONTACT-HOURS SPENT IN CLSRMS AND CLASSLABS (6)	STUDENT CONTACT-HOURS SPENT IN PATIENT AREAS (7)
TOTAL	2830	86	4100	1.45	2648	30993	12164
NUMBER OF SCHOOLS	10	10	10	10	10	10	10
MEAN	283	110	410	1.66	265	3099	1216
HIGH	515	347	911	5.33	1845	5060	2520
LOW	49	40	96	0.38	0	1880	70
065	515	76	820	1.59	0	2796	816
072	489	74	911	1.66	0	3522	936
101	87	126	120	1.38	460	3458	2520
211	260	131	437	1.68	0	2700	864
235	250	40	96	0.38	205	3162	1266
281	184	82	132	0.72	1845	2795	1140
334	220	64	177	0.80	138	5060	2042
634	491	96	816	1.66	0	2786	1190
892	285	70	330	1.16	0	2834	1320
931	49	347	261	5.33	0	1880	70

TABLE J.28

USAGE OF FACILITIES - SECTION 1

OSTEOPATHY

	FULL-TIME EQUIVALENT ENROLLMENT (1)	ALLOCATED NASF PER STUDENT (2)	ALLOCATED STUDENT STATIONS, CLASSROOMS AND CLASSLABS (3)	ALLOCATED CLASSROOM AND CLASS-LAB STATIONS PER STUDENT (4)	NUMBER OF JOINT-USE STATIONS UTILIZED (5)	STUDENT CONTACT-HOURS SPENT IN CLSRMS AND CLASSLABS (6)	STUDENT CONTACT-HOURS SPENT IN PATIENT AREAS (7)
TOTAL	1818	124	3051	1.68	380	14391	13916
NUMBER OF SCHOOLS	5	5	5	5	5	5	5
MEAN	364	145	610	1.54	76	2878	2783
HIGH	487	267	1323	3.04	380	3933	4818
LOW	150	60	88	0.59	0	1800	1460
033	150	267	88	0.59	380	1800	1460
062	329	143	510	1.55	0	2500	2407
293	487	60	528	1.08	0	2970	2204
303	435	131	1323	3.04	0	3188	3027
402	417	127	602	1.44	0	3933	4818

TABLE J.29

USAGE OF FACILITIES - SECTION 1

PHARMACY

	FULL-TIME EQUIVALENT ENROLLMENT (1)	ALLOCATED NASF PER STUDENT (2)	ALLOCATED STUDENT STATIONS, CLASSROOMS AND CLASSLABS (3)	ALLOCATED CLASSROOM AND CLASSLAB STATIONS PER STUDENT (4)	NUMBER OF JOINT-USE STATIONS UTILIZED (5)	STUDENT CONTACT-HOURS SPENT IN CLSRMS AND CLASSLABS (6)	STUDENT CONTACT-HOURS SPENT IN PATIENT AREAS (7)
TOTAL	25628	79	30467	1.19	48013	205775	13162
NUMBER OF SCHOOLS	64	64	64	64	64	64	64
MEAN	400	85	476	1.25	750	3231	206
HIGH	842	225	1923	3.77	6700	9813	1350
LOW	112	20	0	0.00	0	1250	0
005	191	68	199	1.04	414	1856	0
011	282	85	247	0.88	303	5920	0
041	201	65	348	1.73	403	1680	0
052	203	113	422	2.08	0	2115	400
105	395	78	247	0.63	880	3500	0
143	555	34	314	0.57	0	3220	710
144	627	80	792	1.26	300	8348	0
151	273	51	72	0.26	6700	2126	400
181	185	76	198	1.07	319	2094	192
195	303	66	295	0.98	300	2690	180
204	524	59	1408	2.69	0	3090	1350
213	362	86	176	0.49	1681	3314	570
245	594	44	220	0.37	1630	3444	0
262	627	169	647	1.03	1739	3300	80
263	323	130	376	1.16	210	2192	0
265	751	44	231	0.31	1489	5328	0
294	576	35	884	1.53	968	2610	54
313	675	55	892	1.32	0	3000	0
344	469	109	287	0.61	395	3510	800
375	325	108	424	1.30	0	3812	138
382	747	107	619	0.83	150	3680	2
384	359	45	114	0.32	590	3158	0
403	326	55	220	0.67	650	3014	188
404	360	47	208	0.58	0	1280	6
422	323	31	252	0.78	1109	3072	176
453	157	64	108	0.69	175	3909	0
454	288	62	328	1.14	250	7010	600
461	589	71	1442	2.45	0	9813	0
465	282	99	723	2.56	804	2224	560
482	419	115	400	0.95	600	2736	240
493	148	20	0	0.00	1377	2140	326
511	498	48	660	1.33	1284	3584	688
514	431	58	582	1.35	215	2608	0
523	277	54	295	1.06	1163	2324	160
532	279	133	480	1.72	0	1250	0
535	223	85	392	1.76	132	3660	0
571	162	49	179	1.10	450	2808	150
572	307	121	455	1.48	1263	3177	430
585	201	100	366	1.82	2048	2784	192
594	370	62	261	0.71	1220	3745	230
621	513	74	824	1.61	5025	4965	180
645	567	99	182	0.32	1023	3750	0
663	540	61	626	1.16	894	3192	210
665	173	145	430	2.49	0	1464	0

TABLE J.29 (Continued)

USAGE OF FACILITIES - SECTION 1

PHARMACY

(CONTINUED)

	FULL-TIME EQUIVALENT ENROLLMENT (1)	ALLOCATED NASF PER STUDENT (2)	ALLOCATED STUDENT STATIONS, CLASSROOMS AND CLASSLABS (3)	ALLOCATED CLASSROOM AND CLASSLAB STATIONS PER STUDENT (4)	NUMBER OF JOINT-USE STATIONS UTILIZED (5)	STUDENT CONTACT-HOURS SPENT IN CLSRMS AND CLASSLABS (6)	STUDENT CONTACT-HOURS SPENT IN PATIENT AREAS (7)
684	842	140	1909	2.27	0	3663	1295
692	791	66	1079	1.36	377	1470	0
693	206	44	112	0.54	649	1608	32
703	575	75	548	0.95	0	2997	150
724	341	82	450	1.32	660	3345	525
742	112	214	422	3.77	0	1936	0
753	228	140	618	2.71	0	2964	120
801	184	207	340	1.85	0	1730	0
812	259	166	509	1.97	179	3034	400
824	421	74	112	0.27	1030	3420	0
841	258	101	215	0.83	150	2310	300
874	685	28	978	1.43	4520	3384	0
883	714	20	274	0.38	784	3300	0
902	673	100	1923	2.86	0	2641	0
922	509	35	131	0.26	597	3280	0
923	178	225	112	0.63	914	2045	538
971	268	97	479	1.79	0	2651	384
982	758	47	394	0.52	0	3410	0
984	190	79	549	2.89	0	6974	163
991	456	118	487	1.07	0	2157	43

TABLE J.30

USAGE OF FACILITIES - SECTION 1

PODIATRY

	FULL-TIME EQUIVALENT ENROLLMENT (1)	ALLOCATED NASF PER STUDENT (2)	ALLOCATED STUDENT STATIONS, CLASSROOMS AND CLASSLABS (3)	ALLOCATED CLASSROOM AND CLASS-LAB STATIONS PER STUDENT (4)	NUMBER OF JOINT-USE STATIONS UTILIZED (5)	STUDENT CONTACT-HOURS SPENT IN CLSRMS AND CLASSLABS (6)	STUDENT CONTACT-HOURS SPENT IN PATIENT AREAS (7)
TOTAL	1555	55	1752	1.13	0	14372	11959
NUMBER OF SCHOOLS	5	5	5	5	5	5	5
MEAN	311	55	350	1.15	0	2874	2392
HIGH	416	82	420	1.38	0	3455	4900
LOW	227	33	234	1.01	0	2453	1020
082	416	82	420	1.01	0	2453	1020
191	283	42	390	1.38	0	3455	4900
264	398	33	400	1.01	0	3386	1412
644	227	79	234	1.03	0	2540	1888
833	231	39	308	1.33	0	2538	2739

TABLE J.31

USAGE OF FACILITIES - SECTION 1

PUBLIC HEALTH

	FULL-TIME EQUIVALENT ENROLLMENT (1)	ALLOCATED NASF PER STU-DENT (2)	ALLOCATED STUDENT STATIONS, CLASSROOMS AND CLASSLABS (3)	ALLOCATED CLASSROOM AND CLASS-LAB STA-TIONS PER STUDENT (4)	NUMBER OF JOINT-USE STATIONS UTILIZED (5)	STUDENT CONTACT-HOURS SPENT IN CLSRMS AND CLASSLABS (6)	STUDENT CONTACT-HOURS SPENT IN PATIENT AREAS (7)
TOTAL	3285	282	5498	1.67	5285	13307	132
NUMBER OF SCHOOLS	13	13	13	13	13	13	13
MEAN	253	289	423	1.66	407	1024	10
HIGH	488	745	1301	3.67	2279	2300	132
LOW	31	121	78	0.55	0	450	0
032	146	212	197	1.35	144	1132	0
154	446	182	718	1.61	40	690	0
223	356	121	233	0.65	2279	792	132
251	186	145	523	2.81	0	2296	0
272	31	290	78	2.52	725	600	0
291	307	257	170	0.55	1692	450	0
381	348	187	326	0.94	0	2300	0
494	169	207	220	1.30	120	704	0
681	164	274	175	1.07	285	595	0
762	488	408	1301	2.67	0	860	0
763	139	374	80	0.58	0	512	0
834	289	339	1062	3.67	0	1800	0
882	216	745	415	1.92	0	576	0

TABLE J.32

USAGE OF FACILITIES - SECTION 1

VETERINARY MEDICINE

	FULL-TIME EQUIVALENT ENROLLMENT (1)	ALLOCATED NASF PER STUDENT (2)	ALLOCATED STUDENT STATIONS, CLASSROOMS AND CLASSLABS (3)	ALLOCATED CLASSROOM AND CLASS-LAB STATIONS PER STUDENT (4)	NUMBER OF JOINT-USE STATIONS UTILIZED (5)	STUDENT CONTACT-HOURS SPENT IN CLSRMS AND CLASSLABS (6)	STUDENT CONTACT-HOURS SPENT IN PATIENT AREAS (7)
TOTAL	5913	320	12704	2.15	4245	66107	28989
NUMBER OF SCHOOLS	19	18	19	18	19	19	19
MEAN	311	313	669	2.42	223	3479	1526
HIGH	511	649	1644	8.44	860	5383	3728
LOW	0	73	0	0.03	0	0	0
002	327	477	841	2.57	0	4145	1254
021	424	278	1229	2.90	0	4323	2230
043	330	73	10	0.03	487	4570	1590
061	153	190	335	2.19	0	2656	1005
165	422	358	1043	2.47	0	4860	1665
243	284	345	819	2.88	0	4710	1600
292	346	361	508	1.47	860	3445	1102
321	431	241	94	0.22	631	3566	1542
354	511	270	1644	3.22	0	2170	1711
363	305	275	576	1.89	0	4800	1280
392	323	201	660	2.04	0	4200	1200
424	243	284	478	1.97	635	2766	1720
442	371	296	967	2.61	232	3042	2052
502	384	187	500	1.30	144	5383	2362
545	270	263	259	0.96	399	3872	844
551	380	603	1440	3.79	582	3720	2040
622	36	278	304	8.44	0	960	64
784	373	649	997	2.67	275	2919	3728
851	0		0		0	0	0
SCHOOLS FOR WHICH VALUES ARE UNDEFINED		851		851			

FOOTNOTES

USAGE OF FACILITIES - SECTION 1

1. Full-time equivalent enrollment is defined as full-time equivalent undergraduate enrollment plus full-time graduate-level enrollment excluding interns and residents as of fall, 1973.

2. Each figure displayed represents the ratio between total NASF of instructional space (excluding "on-site patient care" and "other" facilities) and full time equivalent enrollment as defined for column 1.

4. The number of students used in this computation is the number found in column 1 (full-time equivalent graduate plus undergraduate).

5. It should be noted that stations reported as "jointly utilized" are not necessarily available on a full-time basis but rather are controlled by either another health profession school, or by some central agency such as a health science center.

6. The figure displayed represents the total amount of time spent by a "typical" student over a career composed of all undergraduate plus one year of graduate study.

7. In parallel with column 6, the figures displayed represent time spent in "on-site patient care facilities" or in owned and major affiliated hospitals--whether that time be spent dealing with inpatients or ambulatory patients.

TABLE J.33

USAGE OF FACILITIES - SECTION 2

DENTISTRY

	<-----CLASSROOMS-----> PERCENT ROOM UTILIZATION (1)	PERCENT STUDENT STATION UTILIZATION (2)	<-----CLASSLAB-----> PERCENT ROOM UTILIZATION (3)	PERCENT STUDENT STATION UTILIZATION (4)	NASF OF OFFICE SPACE PER FACULTY MEMBER (5)	BEDS PER STUDENT (6)	AMBULATORY PATIENT STATIONS PER STUDENT (7)
TOTAL	25.96	17.98	34.87	20.79	101	0.35	0.59
NUMBER OF SCHOOLS	42	46	42	46	50	50	50
MEAN	30.39	24.06	33.83	26.14	114	0.25	0.62
HIGH	131.25	102.72	80.55	90.75	300	4.52	2.03
LOW	1.37	5.13	3.17	7.35	0	0.00	0.00
081	45.67	23.61	43.27	24.64	150	0.00	0.47
085	47.45	43.34	45.29	56.37	94	0.06	0.43
102	19.84	22.32	28.41	34.78	94	0.00	0.59
124	22.00	15.19	13.15	10.56	131	1.48	0.75
132	20.13	21.45	30.17	26.48	59	0.00	0.41
135	15.59	7.48	29.37	13.42	147	0.00	0.04
192					129	0.00	0.37
193	6.21	58.81	15.62	18.82	62	0.03	0.44
231	33.65	23.45	34.13	31.79	76	0.06	0.50
242		102.72		44.50	210	0.00	0.67
244	29.63	26.82	3.17	11.46	49	0.00	0.59
305	20.65	16.33	54.55	25.93	84	0.02	0.71
314	22.73	15.10	26.51	22.15	187	0.01	0.90
335					86	0.00	0.53
352	24.37	18.89	44.96	31.29	75	0.00	0.75
361	18.50	26.52	64.67	16.26	120	0.01	0.75
383	43.96	21.48	27.55	19.19	65	0.03	0.58
423	10.48	17.32	7.62	10.44	119	0.00	0.45
445	71.11	29.00	72.12	12.80	215	0.28	0.57
462	19.04	25.09	26.30	27.71	128	0.02	0.74
471	10.82	16.08	19.71	9.62	83	0.00	0.59
473	11.54	18.32	23.08	28.32	43	0.03	0.44
474					83	0.00	1.17
491	23.80	12.05	80.55	14.96	66	0.04	0.68
513	32.69	28.55	13.97	12.44	82	0.00	0.54
552	39.29	26.43	60.00	8.49	91	0.01	0.86
564	31.49	8.43	21.30	11.08	94	0.00	0.64
565	36.06	20.08	80.13	23.38	51	0.00	0.59
591					300		
592	21.77	19.77	15.75	25.78	102	0.00	0.99
603	16.06	8.44	47.60	35.52	180	0.00	0.00
605	16.23	9.59	50.35	7.35	60	0.00	0.46
633	27.64	30.75	18.93	18.08	122	3.15	0.54
641	1.37	5.13	8.14	9.65	214	0.00	0.39
642	12.47	47.06	7.97	10.35	271	0.27	0.09
701	64.90	12.08	40.66	14.35	186	0.88	0.69
704		31.37		42.25	64	0.00	0.37
715							
733	38.46	28.11	46.25	16.51	51	0.00	0.74
751	33.56	21.89	44.29	34.48	59	0.03	0.95
764	25.10	10.84	10.74	26.44	30	0.22	0.32
792	8.26	14.44	43.27	82.97	171	0.11	0.72
804	34.10	11.66	35.23	9.39	103	0.00	0.51
821					140	0.00	1.42

TABLE J.33 (Continued)

USAGE OF FACILITIES - SECTION 2

(CONTINUED)

DENTISTRY

	<-----CLASSROOMS----->		<------CLASSLAB------>				
	PERCENT ROOM UTILIZA-TION (1)	PERCENT STUDENT STATION UTILIZA-TION (2)	PERCENT ROOM UTILIZA-TION (3)	PERCENT STUDENT STATION UTILIZA-TION (4)	NASF OF OFFICE SPACE PER FACULTY MEMBER (5)	BEDS PER STUDENT (6)	AMBULATORY PATIENT STATIONS PER STUDENT (7)
832							
853	49.81	15.36	34.44	16.47	65	4.52	0.69
854	29.81	26.94	34.62	13.87	155	0.06	0.96
862	131.25	40.20	25.24	72.56		0.00	0.32
911	20.64	13.31	15.32	19.50	138	0.89	0.55
913	35.34	19.76	6.92	56.34	44	0.01	0.52
941	52.88	11.64	49.68	34.49	197	0.03	2.03
942		18.21		90.75	0	0.04	0.07
944		65.52		18.47	159	0.03	0.71
SCHOOLS FOR WHICH VALUES ARE UNDEFINED	192 242 335 474 591 704 715 821 832 942 944	192 335 474 591 715 821 832	192 242 335 474 591 704 715 821 832 942 944	192 335 474 591 715 821 832	715 832 862	591 715 832	591 715 832

TABLE J.34

USAGE OF FACILITIES - SECTION 2

MEDICINE

	<*****CLASSROOMS*****>		<******CLASSLAB******>				
	PERCENT ROOM UTILIZATION (1)	PERCENT STUDENT STATION UTILIZATION (2)	PERCENT ROOM UTILIZATION (3)	PERCENT STUDENT STATION UTILIZATION (4)	NASF OF OFFICE SPACE PER FACULTY MEMBER (5)	BEDS PER STUDENT (6)	AMBULATORY PATIENT STATIONS PER STUDENT (7)
TOTAL	35.33	17.53	34.25	17.54	79	3.78	0.41
NUMBER OF SCHOOLS	68	75	68	75	92	94	94
MEAN	38.05	23.80	32.52	21.15	94	5.02	0.96
HIGH	117.15	90.48	130.38	195.31	258	38.75	50.00
LOW	0.00	0.00	0.00	0.00	0	0.00	0.00
022					77	0.00	0.00
023		64.00		35.68	82	19.20	0.38
024	57.26	9.87	12.02	5.47	40	6.35	0.34
025					129	7.73	0.00
054	35.80	5.79	12.47	8.14	194	11.72	0.42
055	63.01	23.46	69.57	19.61	227	1.18	1.15
074	26.32	10.78	25.38	26.02	19	5.12	0.32
091		41.10		195.31	0	1.86	0.07
094	0.00	29.41	8.76	34.90	94	4.75	2.49
095	40.31	21.91	21.34	42.01	258	3.97	0.46
112	14.17	22.35	21.77	23.24	200	7.74	0.27
121					88	12.20	1.44
133	25.74	10.13	30.30	13.34	177	4.60	0.48
134	16.84	16.89	16.14	14.65	123	2.91	0.31
141		3.76		12.11	46	3.02	0.17
142	34.92	7.72	45.82	15.61	48	3.37	0.25
145	96.94	18.31	62.95	13.18	75	5.48	0.52
152	116.92	24.10	84.13	17.23	0	6.90	0.14
153					0	38.75	50.00
172							
184	43.71	57.50	42.93	9.03	60	1.57	0.25
203	72.67	14.64	72.97	9.36	147	3.61	0.45
212					0	1.59	0.93
215					97	24.62	4.23
222	17.80	12.63	11.88	5.23	100	7.22	0.52
224					125	6.11	0.00
241	22.77	8.52	37.05	9.65	107	4.36	0.48
252	34.62		15.18		233	6.25	0.30
254	25.74	21.08	57.57	10.98	30	0.00	0.00
275	23.30	39.13	4.05	12.63		5.19	0.66
283	22.44	38.30	10.58	24.70	126	1.92	0.06
295	62.38	10.94	50.02	11.08	199	2.86	0.34
311	21.15	14.34	21.15	53.12	94	1.61	0.13
315					125	6.74	0.78
324	72.37	41.43	69.25	15.03	33	3.29	0.36
333	68.70	12.05	46.64	5.46	141	1.95	0.19
341	21.87	17.16	9.24	33.19	36	3.96	0.30
345	57.64	16.02	68.64	35.83	154	2.88	0.05
362	59.78	26.13	57.69	45.32	34	0.37	0.12
371		5.73		5.81	85	3.72	0.23
374	28.89	4.96	17.31	6.30	105	6.17	0.57
393						7.74	0.39
395	0.00	9.44	0.00	3.24	92	1.70	0.16
401	39.31	21.28	41.83	25.82	96	4.77	0.22

TABLE J.34 (Continued)

MEDICINE

USAGE OF FACILITIES - SECTION 2

(CONTINUED)

	<•••••CLASSROOMS•••••>		<••••••CLASSLAB••••••>				
	PERCENT ROOM UTILIZA-TION (1)	PERCENT STUDENT STATION UTILIZA-TION (2)	PERCENT ROOM UTILIZA-TION (3)	PERCENT STUDENT STATION UTILIZA-TION (4)	NASF OF OFFICE SPACE PER FACULTY MEMBER (5)	BEDS PER STUDENT (6)	CMBULATORY PATIENT STATIONS PER STUDENT (7)
415	21.01	11.35	[illegible].74	5.24	84	6.49	0.49
433	13.07	16.31	11.21	11.63	87	3.97	0.76
455		52.67		75.42	73	5.82	0.64
472	44.13	29.82	90.66	84.17	183	1.79	0.44
483	46.13	35.09	27.[illegible]2	17.82	79	1.94	0.23
484	117.15	52.92	92.[illegible]5	56.05	124	1.22	0.10
522	45.01	21.48	23.50	13.48	57	1.76	0.40
531	23.63	7.54	28.85	5.66	56	2.63	0.54
543	116.79	60.21	100.38	80.16	41	2.57	0.24
562		21.60		17.32	118	2.57	0.45
563					167	0.00	0.13
574	27.78	15.03	18.63	15.00	140	1.98	0.50
575	35.26	9.29	39.61	9.26	68	4.08	0.39
583					96	1.33	0.00
602		66.25		27.92	14	2.14	0.47
613	36.78	21.74	19.23	7.03	0	5.70	0.56
624	42.95	30.20	3.29	13.36	112	3.79	0.18
635		29.74		8.84	144	2.39	0.20
651		16.17		23.39	84	12.12	0.07
652	41.43	12.12	26.83	12.00	48	3.37	0.37
653	22.58	29.00	1.00	7.36	113	3.11	0.03
664	60.66	90.48	13.99	4.00	75	7.42	0.96
671	20.54	23.83	17.31	11.62	59	3.33	0.10
672	[illegible]0.87	0.00	16.35	0.00	29	7.10	0.81
683	13.46	11.54	28.58	12.23	57	4.19	0.59
711	32.84	36.61	19.31	19.63	67	2.82	0.12
714	34.86	25.15	24.02	28.11	80	4.15	0.55
731	33.75	13.17	34.62	4.67	46	1.05	0.28
743	0.40	2.42	1.86	8.33	34	1.29	0.20
744	16.31	20.39	19.97	10.94	169	4.20	0.41
761	60.48	24.14	38.94	20.61	61	2.43	0.31
772	0.00		0.46		92	0.00	0.00
774	61.80	9.82	42.80	4.51	27	3.25	0.39
783	60.86	5.15	66.44	6.82	177	6.30	1.25
802	51.92	18.02	56.00	12.34	127	3.05	0.57
813	20.67	46.05	16.83	30.23	13	11.24	0.47
823	81.97	4.00	80.77	3.25	77	5.51	0.06
831	42.31	60.29	49.92	13.45	57	2.05	0.36
863	9.18	14.46	28.72	13.96	10	4.80	0.04
864	18.27	13.13	14.66	12.53	172	4.30	0.21
872	8.00		14.82		34	2.76	0.23
891					89	10.35	0.35
903	1.31		0.00		225	0.00	0.00
904					250	15.36	0.24
921	31.96	18.57	24.88	18.12	89	4.76	0.57
951	44.19	47.82	19.79	9.77	66	2.83	0.86
952		37.06		36.15	5	7.23	0.09
953	23.86		50.00		120	8.36	0.12
954		33.71		11.50	181	0.85	0.56
962					47	19.39	0.81
973		17.94		9.92	152	2.14	0.60

TABLE J.34 (Continued)

MEDICINE

USAGE OF FACILITIES - SECTION 2

(CONTINUED)

	<*****CLASSROOMS*****>		<******CLASSLAB******>				
	PERCENT ROOM UTILIZA-TION (1)	PERCENT STUDENT STATION UTILIZA-TION (2)	PERCENT ROOM UTILIZA-TION (3)	PERCENT STUDENT STATION UTILIZA-TION (4)	NASF OF OFFICE SPACE PER FACULTY MEMBER (5)	BEDS PER STUDENT (6)	AMBULATORY PATIENT STATIONS PER STUDENT (7)
SCHOOLS FOR WHICH VALUES ARE UNDEFINED	22	22	22	22	172	172	172
	23	25	23	25	275		
	25	121	25	121	393		
	91	153	91	153			
	121	172	121	172			
	141	212	141	212			
	153	215	153	215			
	172	224	172	224			
	212	252	212	252			
	215	315	215	315			
	224	393	224	393			
	315	563	315	563			
	371	583	371	583			
	393	772	393	772			
	455	872	455	872			
	562	891	562	891			
	563	903	563	903			
	583	904	583	904			
	602	953	602	953			
	635	962	635	962			
	651		651				
	891		891				
	904		904				
	952		952				
	954		954				
	962		962				
	973		973				

TABLE J.35

USAGE OF FACILITIES - SECTION 2

OPTOMETRY

	<-----CLASSROOMS----->		<------CLASSLAB------>				
	PERCENT ROOM UTILIZATION (1)	PERCENT STUDENT STATION UTILIZATION (2)	PERCENT ROOM UTILIZATION (3)	PERCENT STUDENT STATION UTILIZATION (4)	NASF OF OFFICE SPACE PER FACULTY MEMBER (5)	BEDS PER STUDENT (6)	AMBULATORY PATIENT STATIONS PER STUDENT (7)
TOTAL	40.13	21.70	12.89	21.73	103	0.04	0.26
NUMBER OF SCHOOLS	9	9	9	9	10	10	10
MEAN	42.07	27.87	18.92	34.64	106	0.02	0.28
HIGH	86.54	65.13	32.64	120.85	207	0.25	0.49
LOW	22.43	10.38	1.09	6.49	65	0.00	0.09
065	48.85	10.38	16.87	6.49	79	0.00	0.19
072	42.92	23.21	1.09	23.05	114	0.25	0.49
101	28.91	30.93	16.15	27.76	115	0.00	0.30
211	22.43	17.81	12.69	21.95	207	0.00	0.47
235	50.58	65.13	31.88	29.53	91	0.00	0.26
281	38.46	25.26	32.64	34.65	107	0.00	0.26
334	86.54	27.77	16.35	120.85	65	0.00	0.25
634	26.19	29.60	20.56	11.94	83	0.00	0.09
892	33.75	20.75	22.00	35.58	65	0.00	0.11
933					136	0.00	0.41
SCHOOLS FOR WHICH VALUES ARE UNDEFINED	933	933	933	933			

TABLE J.36

USAGE OF FACILITIES - SECTION 2

OSTEOPATHY

	<•••••CLASSROOMS•••••		<••••••CLASSLAB••••••>				
	PERCENT ROOM UTILIZATION (1)	PERCENT STUDENT STATION UTILIZATION (2)	PERCENT ROOM UTILIZATION (3)	PERCENT STUDENT STATION UTILIZATION (4)	NASF OF OFFICE SPACE PER FACULTY MEMBER (5)	BEDS PER STUDENT (6)	AMBULATORY PATIENT STATIONS PER STUDENT (7)
TOTAL	21.84	24.82	10.14	16.16	116	4.81	[illegible]
NUMBER OF SCHOOLS	4	5	4	5	5	5	5
MEAN	25.10	31.21	11.45	18.35	120	7.54	0.31
HIGH	38.30	49.74	18.75	39.19	203	26.85	0.94
LOW	10.31	15.76	8.68	5.35	52	0.35	0.02
033		49.74		5.35	132	26.85	0.94
062	38.30	27.39	18.75	13.93	203	0.89	0.16
293	31.73	36.48	9.60	23.45	67	1.91	0.09
303	20.03	15.76	8.75	9.81	52	7.68	0.32
402	10.31	26.69	8.68	39.19	145	0.35	0.02
SCHOOLS FOR WHICH VALUES ARE UNDEFINED	33		33				

TABLE J.37

USAGE OF FACILITIES - SECTION 2

PHARMACY

	<•••••CLASSROOMS•••••>		<••••••CLASSLAB••••••>				
	PERCENT ROOM UTILIZATION (1)	PERCENT STUDENT STATION UTILIZATION (2)	PERCENT ROOM UTILIZATION (3)	PERCENT STUDENT STATION UTILIZATION (4)	NASF OF OFFICE SPACE PER FACULTY MEMBER (5)	BEDS PER STUDENT (6)	AMBULATORY PATIENT STATIONS PER STUDENT (7)
TOTAL	31.58	31.51	25.42	15.26	123	1.48	0.04
NUMBER OF SCHOOLS	46	60	46	60	63	64	64
MEAN	33.63	42.39	25.05	21.14	129	1.56	0.05
HIGH	98.22	129.02	66.83	125.15	270	8.59	0.47
LOW	1.44	5.69	0.50	4.01	43	0.00	0.00
005		68.71		10.07	111	0.06	0.00
011	28.37	100.07	31.73	69.24	100	0.62	0.00
041	22.55	19.88	6.79	10.69	111	0.00	0.00
052	28.53	12.66	15.13	15.72	143	0.34	0.01
105	50.48	33.16	17.12	8.65	89	2.92	0.09
143	34.13	60.73	15.38	34.53	43	0.20	0.18
144	22.44	32.20	18.31	17.73	74	2.25	0.01
151		28.67		10.23	87	0.44	0.10
181	30.00	30.92	14.62	16.38	111	0.65	0.05
195	43.08	38.54	13.85	15.77	133	1.10	0.05
204	24.16	11.94	63.65	5.01	167	0.60	0.01
213		115.55		20.97	148	8.59	0.01
245		70.65		26.81	71	0.00	0.00
262		23.02		11.26	125	0.53	0.06
263	46.15	29.91	36.76	17.18	147	0.87	0.02
265		79.84		51.49	208	0.00	0.00
294	1.44	33.88	18.32	6.20	133	4.49	0.09
313	25.96	24.38	19.27	18.71	107	0.21	0.18
344	37.74	25.74	27.54	26.06	147	5.59	0.19
375	24.66	49.62	25.27	15.16	167	0.60	0.05
382	49.23	49.58	14.74	36.96	143	0.17	0.00
384		46.79		23.22	130	0.53	0.00
403		110.58		13.77	115	1.23	0.02
404					111	0.04	0.00
422	30.96	32.89	25.58	24.21	83	2.17	0.00
453		123.87		14.87	100	0.00	0.00
454	60.90	33.49	19.23	76.78	143	3.82	0.03
461	22.87	50.48	64.90	28.01	136	0.00	0.00
465	26.89	17.48	14.67	7.22	80	1.24	0.01
482		34.04		24.76	67	0.97	0.05
493		102.58		125.15	91	6.86	0.00
511		78.00		10.11	60	1.20	0.04
514	55.38	26.24	39.44	15.92	59	1.47	0.04
523	36.45	50.36	24.04	21.03	118	1.12	0.44
532					185	0.00	0.00
535	15.38	64.11	10.32	10.21	125	0.00	0.00
571	25.96	43.93	14.54	21.06	143	0.23	0.02
572	32.10	13.61	12.71	23.97	182	1.37	0.00
585	38.46	27.40	35.94	10.70		2.19	0.47
594	28.85	52.42	18.70	15.00	100	0.41	0.01
621	40.06	19.14	52.68	16.22	125	0.79	0.01
645	91.35		42.37		243	0.35	0.00
663	18.56	19.47	9.91	14.82	107	4.31	0.00
665	32.83	5.69	15.14	4.38	222	0.07	0.00

TABLE J.37 (Continued)

USAGE OF FACILITIES - SECTION 2

PHARMACY

(CONTINUED)

	<•••••CLASSROOMS•••••	•••••>	<••••••CLASSLAB••••	••••••>			
	PERCENT ROOM UTILIZA-TION (1)	PERCENT STUDENT STATION UTILIZA-TION (2)	PERCENT ROOM UTILIZA-TION (3)	PERCENT STUDENT STATION UTILIZA-TION (4)	NASF OF OFFICE SPACE PER FACULTY MEMBER (5)	BEDS PER STUDENT (6)	AMBULATORY PATIENT STATIONS PER STUDENT (7)
684	33.65	16.09	32.60	8.66	81	0.86	0.00
692	3.61	9.61	0.50	12.63	231	0.08	0.00
693	31.92	33.66	25.24	26.46	143	0.00	0.15
703	30.42	42.59	15.08	18.59	185	0.00	0.00
724	30.77	15.51	46.15	14.75	95	1.94	0.00
742	13.58	12.62	5.67	7.67	182	0.00	0.00
753	20.43	15.54	44.89	7.62	200	0.00	0.00
801	40.75	27.01	15.50	6.05	267	0.00	0.00
812	34.39	13.01	13.00	23.89	71	0.77	0.00
824		27.51		52.33	108	4.25	0.00
841	33.49	27.13	38.46	17.25	125	0.00	0.06
874	98.22	57.59	32.67	11.33	95	0.00	0.00
883					133	0.00	0.00
902	24.29	14.45	8.61	4.01	270	1.23	0.00
922		78.87		25.93	154	0.00	0.00
923		29.27		7.38	122	4.62	0.00
971	38.41	21.61	21.90	13.22	91	8.43	0.27
982	26.68	129.02	66.83	32.42	111	7.15	0.00
984	20.38	41.78	10.38	11.53	62	8.11	0.29
991	40.19	38.11	36.11	20.17	77	1.72	0.01
SCHOOLS FOR WHICH VALUES. ARE UNDEFINED	5	404	5	404	585		
	151	532	151	532			
	213	645	213	645			
	245	883	245	883			
	262		262				
	265		265				
	384		384				
	403		403				
	404		404				
	453		453				
	482		482				
	493		493				
	511		511				
	532		532				
	824		824				
	883		883				
	922		922				
	923		923				

TABLE J.38

USAGE OF FACILITIES - SECTION 2

PODIATRY

	<*****CLASSROOMS*****>		<*****CLASSLAB*****>				
	PERCENT ROOM UTILIZATION (1)	PERCENT STUDENT STATION UTILIZATION (2)	PERCENT ROOM UTILIZATION (3)	PERCENT STUDENT STATION UTILIZATION (4)	NASF OF OFFICE SPACE PER FACULTY MEMBER (5)	BEDS PER STUDENT (6)	AMBULATORY PATIENT STATIONS PER STUDENT (7)
TOTAL	35.10	30.06	23.08	39.72	68	3.21	0.23
NUMBER OF SCHOOLS	5	5	5	5	5	5	5
MEAN	36.09	29.87	24.25	49.70	76	3.32	0.26
HIGH	47.60	38.24	38.46	85.58	167	6.56	0.64
LOW	22.07	22.42	16.35	17.44	33	0.10	0.08
082	22.07	32.92	16.35	26.36	59	0.84	0.16
191	47.60	22.42	38.46	61.47	62	0.10	0.08
264	41.71	38.24	26.06	57.64	167	6.15	0.14
644	33.65	28.04	20.77	85.58	59	6.56	0.64
833	35.42	27.76	19.62	17.44	33	2.96	0.26

TABLE J.39

USAGE OF FACILITIES - SECTION 2

PUBLIC HEALTH

	<•••••CLASSROOMS•••••	>	<••••••CLASSLAB••••••	>			
	PERCENT ROOM UTILIZATION (1)	PERCENT STUDENT STATION UTILIZATION (2)	PERCENT ROOM UTILIZATION (3)	PERCENT STUDENT STATION UTILIZATION (4)	NASF OF OFFICE SPACE PER FACULTY MEMBER (5)	BEDS PER STUDENT (6)	AMBULATORY PATIENT STATIONS PER STUDENT (7)
TOTAL	31.90	19.12	36.16	43.06	195	0.07	0.01
NUMBER OF SCHOOLS	11	11	11	9	12	13	13
MEAN	31.68	27.67	35.83	42.82	215	0.10	0.01
HIGH	55.67	44.68	88.46	185.74	531	1.36	0.12
LOW	0.00	6.51	0.00	3.44	71	0.00	0.00
032	46.96		88.46		182	0.00	0.00
154	54.46	20.17	34.82	21.27	152	0.00	0.00
223	25.89	41.55	9.25	38.30	158	0.00	0.00
251	44.68	41.06	41.01	34.69	184	0.00	0.02
272					161	0.00	0.00
291	28.37	44.68	23.00	5.48	333	0.00	0.00
381	55.67	42.27	55.67	30.60	145	0.00	0.00
494		8.99			531	1.36	0.12
681	15.61	30.01	67.79	10.76	169	0.00	0.00
762	20.13	9.01	26.70	55.73	163	0.00	0.00
763	0.00	42.79	0.00		71	0.00	0.00
834	48.11	6.51	42.84	185.74		0.00	0.00
882	8.57	17.38	4.62	3.44	325	0.00	0.00
SCHOOLS FOR WHICH VALUES ARE UNDEFINED	272 494	32 272	272 494	32 272 494 763	834		

TABLE J.40

USAGE OF FACILITIES - SECTION 2

VETERINARY MEDICINE

	<-----CLASSROOMS-----		<------CLASSLAB------>				
	PERCENT ROOM UTILIZATION (1)	PERCENT STUDENT STATION UTILIZATION (2)	PERCENT ROOM UTILIZATION (3)	PERCENT STUDENT STATION UTILIZATION (4)	NASF OF OFFICE SPACE PER FACULTY MEMBER (5)	BEDS PER STUDENT (6)	AMBULATORY PATIENT STATIONS PER STUDENT (7)
TOTAL	35.09	20.11	33.81	17.34	116	0.58	0.07
NUMBER OF SCHOOLS	13	15	13	15	18	18	18
MEAN	33.63	31.82	27.76	21.61	122	0.54	0.06
HIGH	61.46	155.34	61.56	87.44	216	0.97	0.41
LOW	13.90	7.39	3.05	8.44	20	0.00	0.00
002	25.20	16.88	20.80	13.13	138	0.61	0.04
021	16.48	9.80	3.05	13.57	130	0.60	0.04
043					20	0.71	0.05
061	13.90	14.37	34.00	14.74	73	0.61	0.07
165	46.52	22.34	61.56	28.65	109	0.60	0.06
243	40.19	19.27	16.12	13.55	145	0.52	0.03
292		68.98		10.56	150	0.97	0.03
321		155.34		87.44	121	0.94	0.08
354	28.35	7.39	22.63	8.44	152	0.60	0.04
363	28.21	12.35	9.62	19.01	64	0.49	0.04
392	35.41	22.72	24.04	21.17	66	0.60	0.41
424	51.17	12.42	55.02	16.54	163	0.40	0.07
442	33.94	13.38	10.66	15.23	84	0.43	0.03
502	40.38		46.15		216	0.00	0.00
545		47.68		20.79	141	0.56	0.03
551	61.46	37.02	32.94	20.88	95	0.57	0.11
622					200	0.00	0.00
784	15.53	15.41	24.34	20.49	131	0.56	0.03
851							
SCHOOLS FOR WHICH VALUES ARE UNDEFINED	43 292 321 545 622 851	43 502 622 851	43 292 321 545 622 851	43 502 622 851	851	851	851

FOOTNOTES

USAGE OF FACILITIES - SECTION 2

1. For columns 1-4, Appendix G should be consulted to obtain insight into the manner in which the utilization percentages are computed. In particular, attention should be paid to the depressive effect of substituting 2,080 hours for the actually reported "length of academic year".

5. The number of faculty members is determined by adding the reported number of full-time faculty to the reported "full-time equivalent of part-time faculty".

6. The number of beds (animal holding units for schools of veterinary medicine) is obtained by adding the figures reported under "on-site patient care", owned and major affiliated hospitals, and "minor" affiliates. The number of students is obtained by adding full-time equivalent undergraduates to full-time equivalent graduate students as reported for fall, 1973.

7. Computations performed in parallel with those of column 6.

TABLE J.41

OVERVIEW OF ONGOING CONSTRUCTION & REMODELING OF CONTROLLED NONCLINICAL INSTRUCTION FACILITIES: EXTENT & EFFECTS

DENTISTRY

	GSF UNDER CONSTRUC-TION (000) (1)	NASF UNDER CONSTRUC-TION (000) (2)	CONSTRUC-TION COST ($000) (3)	NASF (000) BEING REMODELED (4)	REMODELING COST ($000) (5)	NASF/STU-DENT FOL-LOWING COMPLETION OF CON-STRUCTION (6)	NASF NEED-ED FOLLOW-ING COM-PLETION OF CONSTRUC-TION (000) (7)	NEED AS A % OF IN-VENTORY AT COMPLE-TION OF CONSTR. (8)	POST-CON-STRUCTION NASF NEEDED PER STUDENT (9)
TOTAL	2332	647	142200	121	12459	152	552	17	25
NUMBER OF SCHOOLS	53	53	53	53	53	52	53	52	52
MEAN	44	12	2683	2	235	173	10	25	24
HIGH	454	142	27000	34	5000	645	90	135	151
LOW	0	0	0	0	0	0	0	0	0
081	45	0	4200	34	3000	201	0	0	0
085	0	0	0	0	0	39	6	26	10
102	0	0	0	0	0	102	12	21	22
124	0	0	0	0	0	232	3	4	9
132	0	0	0	2	500	69	20	65	44
135	0	0	0	0	0	139	27	40	56
192	0	0	0	14	1240	400	0	0	0
193	400	109	27000	0	0	162	0	0	0
231	0	0	0	0	0	66	19	90	60
242	133	50	11898	0	0	124	0	0	0
244	0	0	0	0	0	208	0	0	0
305	0	0	0	0	0	164	90	92	151
314	0	0	0	0	0	123	0	0	0
335	454	142	22109	0	0	612	0	0	0
352	0	0	0	0	0	99	0	0	0
361	16	6	1400	0	0	133	0	0	0
383	0	0	0	3	140	101	0	0	0
423	0	0	0	0	0	112	23	82	92
445	0	0	0	0	12	138	21	36	50
462	0	0	0	0	0	102	17	37	38
471	0	0	0	1	500	137	9	16	22
473	193	44	10388	0	0	147	0	0	0
474	187	42	10750	0	0	201	0	0	0
491	0	0	0	0	0	117	0	0	0
513	0	0	0	0	0	118	10	31	37
552	0	0	15	1	42	128	15	50	64
564	0	0	0	0	0	161	9	16	26
565	0	0	0	0	0	48	15	125	60
591	43	14	3313	7	328	210	0	0	0
592	0	0	0	0	0	160	12	23	37
603	194	66	15790	0	0	239	0	0	0
605	0	0	0	10	510	82	26	49	40
633	0	0	0	0	0	162	0	0	0
641	0	0	0	0	0	289	0	0	0
642	0	0	0	0	0	369	0	0	0
701	0	0	0	0	0	135	8	16	17
704	0	0	0	32	5000	198	0	0	0
715	0	0	0	0	0	0	0		0
733	0	0	0	0	0	87	0	0	0
751	0	0	0	0	620	52	27	112	59
764	0	0	0	2	139	140	7	8	11
792	0	0	0	13	53	240	0	0	0
804	0	0	0	0	0	136	34	47	63

TABLE J.41 (Continued)

OVERVIEW OF ONGOING CONSTRUCTION & REMODELING OF CONTROLLED NONCLINICAL INSTRUCTION FACILITIES: EXTENT & EFFECTS

DENTISTRY

(CONTINUED)

	GSF UNDER CONSTRUCTION (000) (1)	NASF UNDER CONSTRUCTION (000) (2)	CONSTRUCTION COST ($000) (3)	NASF (000) BEING REMODELED (4)	REMODELING COST ($000) (5)	NASF/STUDENT FOLLOWING COMPLETION OF CONSTRUCTION (6)	NASF NEEDED FOLLOWING COMPLETION OF CONSTRUCTION (000) (7)	NEED AS A % OF INVENTORY AT COMPLETION OF CONSTR. (8)	POST-CONSTRUCTION NASF NEEDED PER STUDENT (9)
821	410	115	17401	0	0	845	0	0	0
832	39	10	2536	0	25		0	0	
853	0	0	0	0	0	96	84	135	130
854	0	0	0	0	0	213	3	8	16
862	0	0	0	2	300	187	0	0	0
911	0	0	0	0	0	96	0	0	0
913	0	0	0	0	50	101	29	78	79
941	30	21	900	0	0	401	0	0	0
942	188	28	14500	0	0	57	26	93	53
944	0	0	0	0	0	131	0	0	0
SCHOOLS FOR WHICH VALUES ARE UNDEFINED						832		715	832

TABLE J.42

OVERVIEW OF ONGOING CONSTRUCTION & REMODELING OF CONTROLLED NONCLINICAL INSTRUCTION FACILITIES: EXTENT & EFFECTS

MEDICINE

	GSF UNDER CONSTRUC-TION (000) (1)	NASF UNDER CONSTRUC-TION (000) (2)	CONSTRUC-TION COST ($000) (3)	NASF (000) BEING REMODELED (4)	REMODELING COST ($000) (5)	NASF/STU-DENT FOL-LOWING COMPLETION OF CON-STRUCTION (6)	NASF NEED-ED FOLLOW-ING COM-PLETION OF CONSTRUC-TION (000) (7)	NEED AS A % OF IN-VENTORY AT COMPLE-TION OF CONSTR. (8)	POST-CON-STRUCTION NASF NEEDED PER STUDENT (9)
TOTAL	10437	4947	721921	1008	52638	409	4117	18	75
NUMBER OF SCHOOLS	95	95	95	95	95	94	95	94	94
MEAN	110	52	7599	11	554	431	43	27	79
HIGH	907	533	69677	109	6000	1196	384	530	741
LOW	0	0	0	0	0	0	0	0	0
022	0	0	0	9	120	311	0	0	0
023	0	0	0	0	0	115	0	0	0
024	0	0	0	0	0	395	150	79	312
025	0	0	0	0	0	322	14	30	96
054	0	0	0	40	1100	962	168	30	287
055	0	0	0	0	0	328	384	226	741
074	0	0	0	17	500	689	14	4	26
091	0	0	0	0	0	273	2	2	6
094	314	109	20479	17	612	1196	63	10	124
095	200	73	12400	0	0	278	280	140	389
112	0	0	0	0	0	292	24	14	40
121	197	100	11110	0	0	391	41	41	160
133	0	0	0	0	0	406	39	8	32
134	426	226	27281	109	4000	755	0	0	0
141	0	0	0	0	0	667	0	0	0
142	0	0	0	23	726	330	76	29	96
145	0	0	0	9	145	463	0	0	0
152	0	81	16023	0	0	104	63	72	75
153	26	8	1411	0	0	106	0	0	0
172	42	21	1800	0	0		0	0	
184	0	0	0	0	0	425	0	0	0
203	193	64	14061	10	231	454	187	39	176
212	0	0	0	0	0	0	0		0
215	353	186	35000	0	0	365	186	64	232
222	0	0	0	0	0	200	0	0	0
224	0	0	0	0	0	224	12	20	46
241	0	0	0	0	0	282	81	56	158
252	0	0	0	32	2705	235	63	20	47
254	0	0	0	7	504	451	30	10	45
275	633	287	29378	32	4600	642	90	16	102
283	110	64	7000	0	0	406	193	79	321
295	91	52	5000	62	2500	509	0	0	0
311	0	0	0	0	0	273	39	36	99
315	521	209	27847	0	0	730	22	9	67
324	0	0	0	0	0	296	90	35	104
333	15	12	1317	23	1895	347	25	11	38
341	0	0	0	0	252	238	11	12	28
345	0	0	0	0	0	414	35	16	67
362	0	0	0	0	0	125	122	60	75
371	0	0	0	0	0	484	47	13	63
374	907	460	52500	0	0	578	0	0	0
393	230	93	13284	0	0	207	0	0	0
395	0	0	0	0	0	502	0	0	0

TABLE J.42 (Continued)

OVERVIEW OF ONGOING CONSTRUCTION & REMODELING OF CONTROLLED NONCLINICAL INSTRUCTION FACILITIES: EXTENT & EFFECTS

MEDICINE

(CONTINUED)

	GSF UNDER CONSTRUCTION (000) (1)	NASF UNDER CONSTRUCTION (000) (2)	CONSTRUCTION COST ($000) (3)	NASF (000) BEING REMODELED (4)	REMODELING COST ($000) (5)	NASF/STUDENT FOLLOWING COMPLETION OF CONSTRUCTION (6)	NASF NEEDED FOLLOWING COMPLETION OF CONSTRUCTION (000) (7)	NEED AS A % OF INVENTORY AT COMPLETION OF CONSTR. (8)	POST-CONSTRUCTION NASF NEEDED PER STUDENT (9)
401	0	0	0	8	389	508	26	14	73
415	65	44	3100	51	1793	620	80	22	139
433	58	17	2525	80	6000	970	20	4	35
455	0	22	9662	0	0	119	49	45	53
472	0	0	0	28	1132	654	0	0	0
483	64	29	4562	7	84	190	10	11	20
484	143	0	7992	61	0	244	0	0	0
522	127	45	7300	39	1920	319	25	10	32
531	242	49	17385	0	0	888	41	10	88
543	0	0	0	7	163	226	23	16	36
562	9	2	440	0	0	288	14	10	30
563	0	0	0	7	68	385	31	84	323
574	207	0	2540	6	443	569	48	16	92
575	0	0	0	0	0	172	0	0	0
583	107	58	8336	37	1619	848	0	0	0
602	0	0	0	0	0	137	0	0	0
613	828	410	69677	0	195	1061	55	10	102
624	30	23	730	26	2170	341	31	18	60
635	125	68	7584	6	99	361	0	0	0
651	0	0	0	4	50	203	0	0	0
652	0	0	0	0	0	253	76	53	134
653	0	0	0	0	0	416	0	0	0
664	62	32	3196	0	0	743	0	0	0
671	36	24	3000	47	3000	1096	0	0	0
672	545	253	30500	0	0	633	0	0	0
683	0	0	0	0	0	473	27	23	111
711	0	0	0	0	0	68	35	73	50
714	820	533	58000	0	47	3	0	0	0
731	0	0	0	0	0	372	0	0	0
743	320	218	30650	26	1074	719	0	0	0
744	0	0	0	48	5209	488	0	0	0
761	0	0	0	7	145	231	93	70	163
772	0	0	0	0	0	908	75	15	138
774	0	0	0	0	0	433	0	0	0
783	0	0	0	0	0	746	27	9	69
802	644	346	38009	9	376	682	0	0	0
813	450	297	59400	0	0	625	0	0	0
823	0	0	0	0	0	306	0	0	0
831	50	43	1958	0	1432	324	137	61	198
863	40	26	2704	12	1400	293	7	3	9
864	0	0	0	0	0	232	0	0	0
872	0	0	0	11	0	590	0	0	0
891	0	0	0	0	0	101	175	530	534
903	0	0	0	6	120	294	0	0	0
904	0	0	0	10	240	1043	0	0	0
921	0	0	0	0	0	516	303	131	676
951	40	30	1500	27	1200	296	60	27	81
952	0	0	0	15	1700	144	32	36	51
953	0	0	0	0	0	293	21	7	21
954	216	0	13000	0	0	288	0	0	0
962	793	241	49280	0	0	602	0	0	0
973	158	90	13000	25	680	383	45	22	82
SCHOOLS FOR WHICH VALUES ARE UNDEFINED						172		212	172

TABLE J.43

OVERVIEW OF ONGOING CONSTRUCTION & REMODELING OF CONTROLLED NONCLINICAL INSTRUCTION FACILITIES: EXTENT & EFFECTS

OPTOMETRY

	GSF UNDER CONSTRUCTION (000) (1)	NASF UNDER CONSTRUCTION (000) (2)	CONSTRUCTION COST ($000) (3)	NASF (000) BEING REMODELED (4)	REMODELING COST ($000) (5)	NASF/STUDENT FOLLOWING COMPLETION OF CONSTRUCTION (6)	NASF NEEDED FOLLOWING COMPLETION OF CONSTRUCTION (000) (7)	NEED AS A % OF INVENTORY AT COMPLETION OF CONSTR. (8)	POST-CONSTRUCTION NASF NEEDED PER STUDENT (9)
TOTAL	71	25	4511	0	0	100	73	25	25
NUMBER OF SCHOOLS	10	10	10	10	10	10	10	10	10
MEAN	7	2	451	0	0	119	7	47	37
HIGH	71	25	4511	0	0	347	17	140	82
LOW	0	0	0	0	0	40	0	0	0
065	0	0	0	0	0	71	0	0	0
072	0	0	0	0	0	74	4	11	8
101	71	25	4511	0	0	139	0	0	0
211	0	0	0	0	0	131	6	18	23
235	0	0	0	0	0	40	14	140	56
281	0	0	0	0	0	82	12	80	65
334	0	0	0	0	0	62	17	121	75
634	0	0	0	0	0	175	0	0	0
892	0	0	0	0	0	70	16	80	56
933	0	0	0	0	0	347	4	24	82

TABLE J.44

OVERVIEW OF ONGOING CONSTRUCTION & REMODELING OF CONTROLLED NONCLINICAL INSTRUCTION FACILITIES: EXTENT & EFFECTS

OSTEOPATHY

	GSF UNDER CONSTRUCTION (000) (1)	NASF UNDER CONSTRUCTION (000) (2)	CONSTRUCTION COST ($000) (3)	NASF (000) BEING REMODELED (4)	REMODELING COST ($000) (5)	NASF/STUDENT FOLLOWING COMPLETION OF CONSTRUCTION (6)	NASF NEEDED FOLLOWING COMPLETION OF CONSTRUCTION (000) (7)	NEED AS A % OF INVENTORY AT COMPLETION OF CONSTR. (8)	POST-CONSTRUCTION NASF NEEDED PER STUDENT (9)
TOTAL	218	51	12000	22	970	145	36	12	18
NUMBER OF SCHOOLS	5	5	5	5	5	5	5	5	5
MEAN	44	10	2400	4	194	150	7	15	23
HIGH	218	51	12000	10	505	224	19	42	74
LOW	0	0	0	0	0	76	0	0	0
033	0	0	0	0	0	173	17	42	74
062	218	51	12000	0	0	224	0	0	0
293	0	0	0	10	45	76	0	0	0
303	0	0	0	2	505	130	19	33	43
402	0	0	0	10	420	148	0	0	0

TABLE J.45

OVERVIEW OF ONGOING CONSTRUCTION & REMODELING OF CONTROLLED NONCLINICAL INSTRUCTION FACILITIES: EXTENT & EFFECTS

PHARMACY

	GSF UNDER CONSTRUCTION (000) (1)	NASF UNDER CONSTRUCTION (000) (2)	CONSTRUCTION COST ($000) (3)	NASF (000) BEING REMODELED (4)	REMODELING COST ($000) (5)	NASF/STUDENT FOLLOWING COMPLETION OF CONSTRUCTION (6)	NASF NEEDED FOLLOWING COMPLETION OF CONSTRUCTION (000) (7)	NEED AS A % OF INVENTORY AT COMPLETION OF CONSTR. (8)	POST-CONSTRUCTION NASF NEEDED PER STUDENT (9)
TOTAL	569	331	22492	44	661	82	473	21	17
NUMBER OF SCHOOLS	64	64	64	64	64	64	64	64	64
MEAN	9	5	351	1	10	92	7	31	21
HIGH	165	90	7646	9	187	393	39	236	121
LOW	0	0	0	0	0	18	0	0	0
005	0	0	0	0	0	60	8	62	37
011	80	47	4000	0	0	119	23	49	58
041	0	0	0	1	15	51	0	0	0
052	0	0	0	0	0	113	1	4	5
105	7	6	180	6	187	79	0	0	0
143	0	0	0	1	16	26	0	0	0
144	0	0	0	0	0	81	5	10	8
151	0	0	0	0	0	51	33	236	121
181	0	0	0	0	0	76	6	43	32
195	0	0	0	0	0	66	8	40	26
204	0	0	0	0	0	59	5	16	10
213	0	0	0	0	0	86	17	55	47
245	0	0	0	0	0	44	29	112	49
262	0	0	0	0	0	169	20	19	32
263	0	0	0	0	0	130	30	71	93
265	0	0	0	0	0	44	13	39	17
294	0	0	0	0	0	35	3	15	5
313	0	0	0	0	0	55	5	14	7
344	0	0	0	0	0	109	10	20	21
375	0	0	0	0	0	108	0	0	0
382	0	0	0	0	0	107	0	0	0
384	0	0	0	0	0	29	0	0	0
403	0	0	0	0	0	55	20	111	61
404	0	0	0	0	10	47	2	12	6
422	0	0	0	0	0	30	2	20	6
453	0	0	0	0	0	64	2	20	13
454	0	0	0	0	0	62	21	117	73
461	0	0	0	0	0	71	11	26	19
465	0	0	0	0	0	99	6	21	21
482	0	0	0	8	81	115	0	0	0
493	54	27	3952	0	0	154	0	0	0
511	90	45	4750	0	0	72	0	0	0
514	0	0	0	0	0	58	13	52	30
523	0	0	0	0	0	49	30	200	97
532	0	0	0	0	0	125	6	16	20
535	0	0	0	2	22	81	4	19	15
571	0	0	0	0	0	49	14	175	86
572	0	0	0	0	0	121	8	22	26
585	0	0	0	0	0	100	0	0	0
594	0	0	0	0	0	62	0	0	0
621	0	0	0	3	180	61	9	24	15
645	0	0	0	8	30	104	0	0	0
663	0	0	0	0	0	61	0	0	0

TABLE J.45 (Continued)

OVERVIEW OF ONGOING CONSTRUCTION & REMODELING OF CONTROLLED NONCLINICAL INSTRUCTION FACILITIES: EXTENT & EFFECTS

PHARMACY

(CONTINUED)

	GSF UNDER CONSTRUCTION (000) (1)	NASF UNDER CONSTRUCTION (000) (2)	CONSTRUCTION COST ($000) (3)	NASF (000) BEING REMODELED (4)	REMODELING COST ($000) (5)	NASF/STUDENT FOLLOWING COMPLETION OF CONSTRUCTION (6)	NASF NEEDED FOLLOWING COMPLETION OF CONSTRUCTION (000) (7)	NEED AS A % OF INVENTORY AT COMPLETION OF CONSTR. (8)	POST-CONSTRUCTION NASF NEEDED PER STUDENT (9)
665	0	0	0	0	0	145	0	0	0
684	0	0	0	0	0	140	0	0	0
692	0	0	0	0	0	57	0	0	0
693	40	24	1929	0	0	72	3	12	9
703	0	0	0	0	0	75	0	0	0
724	127	90	7646	0	0	207	3	3	7
742	0	0	0	0	0	214	0	0	0
753	0	0	0	0	0	140	3	9	13
801	0	0	0	0	0	207	0	0	0
812	0	0	0	0	0	166	0	0	0
824	0	0	0	0	0	74	39	126	93
841	6	6	35	1	14	146	2	6	9
874	0	0	0	1	6	28	1	5	1
883	0	0	0	4	80	18	0	0	0
902	0	0	0	0	0	100	13	19	19
922	0	0	0	0	0	35	0	0	0
923	165	86	0	0	0	393	0	0	0
971	0	0	0	0	0	87	7	27	23
982	0	0	0	0	0	47	0	0	0
984	0	0	0	9	20	79	8	53	42
991	0	0	0	0	0	118	30	56	66

TABLE J.46

OVERVIEW OF ONGOING CONSTRUCTION & REMODELING OF CONTROLLED NONCLINICAL INSTRUCTION FACILITIES: EXTENT & EFFECTS

PODIATRY

	GSF UNDER CONSTRUCTION (000) (1)	NASF UNDER CONSTRUCTION (000) (2)	CONSTRUCTION COST ($000) (3)	NASF (000) BEING REMODELED (4)	REMODELING COST ($000) (5)	NASF/STUDENT FOLLOWING COMPLETION OF CONSTRUCTION (6)	NASF NEEDED FOLLOWING COMPLETION OF CONSTRUCTION (000) (7)	NEED AS A % OF INVENTORY AT COMPLETION OF CONSTR. (8)	POST-CONSTRUCTION NASF NEEDED PER STUDENT (9)
TOTAL	209	86	14600	8	50	79	64	43	34
NUMBER OF SCHOOLS	5	5	5	5	5	5	5	5	5
MEAN	42	17	2920	2	10	78	13	100	40
HIGH	149	58	9100	8	50	129	28	244	95
LOW	0	0	0	0	0	28	0	0	0
082	0	0	0	0	0	82	0	0	0
191	60	28	5500	8	50	112	14	39	44
264	0	0	0	0	0	28	28	215	59
644	149	58	9100	0	0	129	0	0	0
833	0	0	0	0	0	39	22	244	95

TABLE J.47

OVERVIEW OF ONGOING CONSTRUCTION & REMODELING OF CONTROLLED NONCLINICAL INSTRUCTION FACILITIES: EXTENT & EFFECTS

PUBLIC HEALTH

	GSF UNDER CONSTRUC-TION (000) (1)	NASF UNDER CONSTRUC-TION (000) (2)	CONSTRUC-TION COST ($000) (3)	NASF (000) BEING REMODELED (4)	REMODELING COST ($000) (5)	NASF/STU-DENT FOL-LOWING COMPLETION OF CON-STRUCTION (6)	NASF NEED-ED FOLLOW-ING COM-PLETION OF CONSTRUC-TION (000) (7)	NEED AS A % OF IN-VENTORY AT COMPLE-TION OF CONSTR. (8)	POST-CON-STRUCTION NASF NEEDED PER STUDENT (9)
TOTAL	34	13	2703	3	19	285	261	28	79
NUMBER OF SCHOOLS	13	13	13	13	13	13	13	13	13
MEAN	3	1	208	0	1	290	20	41	91
HIGH	34	13	2703	3	19	745	96	274	568
LOW	0	0	0	0	0	145	0	0	0
032	0	0	0	0	0	212	0	0	0
154	0	0	0	3	19	188	48	57	108
223	34	13	2703	0	0	151	17	30	46
251	0	0	0	0	0	145	7	26	38
272	0	0	0	0	0	290	5	56	161
291	0	0	0	0	0	257	37	47	121
381	0	0	0	0	0	187	0	0	0
494	0	0	0	0	0	207	96	274	568
681	0	0	0	0	0	274	9	20	55
762	0	0	0	0	0	408	42	21	86
763	0	0	0	0	0	371	0	0	0
834	0	0	0	0	0	339	0	0	0
882	0	0	0	0	0	745	0	0	0

TABLE J.48

OVERVIEW OF ONGOING CONSTRUCTION & REMODELING OF CONTROLLED NONCLINICAL INSTRUCTION FACILITIES: EXTENT & EFFECTS

VETERINARY MEDICINE

	GSF UNDER CONSTRUC-TION (000) (1)	NASF UNDER CONSTRUC-TION (000) (2)	CONSTRUC-TION COST ($000) (3)	NASF (000) BEING REMODELED (4)	REMODELING COST ($000) (5)	NASF/STU-DENT FOL-LOWING COMPLETION OF CON-STRUCTION (6)	NASF NEED-ED FOLLOW-ING COM-PLETION OF CONSTRUC-TION (000) (7)	NEED AS A % OF IN-VENTORY AT COMPLE-TION OF CONSTR. (8)	POST-CON-STRUCTION NASF NEEDED PER STUDENT (9)
TOTAL	1005	422	61313	47	1655	327	930	41	234
NUMBER OF SCHOOLS	19	19	19	19	19	18	19	18	18
MEAN	53	22	3227	2	87	319	49	41	132
HIGH	324	116	18980	12	484	701	169	158	436
LOW	0	0	0	0	0	70	0	0	0
002	0	0	0	0	0	477	47	30	144
021	0	0	0	0	0	278	31	26	73
043	0	0	0	0	0	70	0	0	0
061	14	4	350	4	250	136	16	53	73
165	0	0	0	1	38	363	0	0	0
243	126	67	9180	0	0	419	55	35	149
292	120	23	7567	0	0	308	16	11	33
321	0	0	0	0	0	241	68	65	158
354	0	0	0	10	338	250	121	83	209
363	0	0	0	0	0	275	133	158	436
392	0	0	0	0	0	196	1	2	3
424	3	0	75	9	484	260	9	13	34
442	243	116	14000	0	0	376	107	59	221
502	99	52	8400	0	0	276	106	85	234
545	0	0	0	12	104	307	51	61	189
551	76	48	2753	0	0	701	169	61	428
622	324	112	18980	0	0	311	0	0	0
784	0	0	0	11	441	504	0	0	0
851	0	0	0	0	0		0		
SCHOOLS FOR WHICH VALUES ARE UNDEFINED						851		851	851

FOOTNOTES

OVERVIEW OF ONGOING CONSTRUCTION & REMODELING OF CONTROLLED NONCLINICAL INSTRUCTION FACILITIES: EXTENT & EFFECTS

6. The NASF figure used in the computations is that reported by respondents to represent their inventory (excluding "on-site patient care" and "other" facilities) following the completion of all ongoing construction and remodeling programs. The number of students used in the computation is the number of full-time equivalent graduate plus undergraduate students expected to be enrolled following the completion of these programs.

9. The figure displayed represents the ratio of column 7 to the number of fulltime equivalent undergraduate students expected to be enrolled following the completion of ongoing construction and remodeling.

TABLE J.49

THE 1983 LOOK AHEAD

DENTISTRY

	ADDITIONAL NASF TO BE BUILT BY 1983 (000) (1)	ADDITIONAL NASF TO BE REMODELED BY 1983 (000) (2)	INVENTORY OF CONTROLLED NONCLINI-CAL SPACE (000) (3)	RATIO OF 1983 INVENTORY TO 1973 INVENTORY (4)	RATIO OF 1983 HEADCOUNT TO 1973 HEADCOUNT (5)
TOTAL	1451	526	7237	1.64	1.24
NUMBER OF SCHOOLS	53	53	53	51	50
MEAN	27	10	137	2.29	2.00
HIGH	235	96	404	20.57	15.42
LOW	0	0	0	0.98	0.81
081	0	25	132	1.97	1.28
085	80	50	244	3.59	1.29
102	0	14	134	1.00	1.00
124	9	15	135	1.07	1.15
132	77	24	115	1.74	1.14
135	0	0	68	1.00	1.05
192	24	0	96	1.81	11.29
193	15	0	207	3.04	1.25
231	38	10	102	3.09	1.00
242	16	0	195	1.57	1.55
244	0	0	111	1.00	1.11
305	4	0	192	1.02	1.14
314	0	0	173	1.00	0.96
335	0	0	288	20.57	11.42
352	50	65	165	1.42	1.21
361	0	0	100	1.12	1.19
383	0	0	124	1.00	1.33
423	106	0	153	3.26	1.00
445	0	0	99	0.99	1.28
462	0	0	121	0.98	1.25
471	0	0	90	1.00	0.91
473	0	0	105	3.89	1.47
474	20	0	159	4.97	15.42
491	88	29	206	1.75	1.36
513	0	0	60	1.00	1.06
552	0	0	53	1.04	1.16
564	0	3	95	1.03	1.02
565	6	54	97	2.62	1.28
591	0	0	30	3.75	
592	36	9	145	1.45	1.17
603	0	0	197	2.56	1.75
605	20	35	112	1.20	1.16
633	0	0	96	1.00	1.19
641	51	0	112	1.67	3.01
642	0	0	203	1.00	1.78
701	34	0	134	1.34	1.17
704	140	0	140	2.19	1.06
715	0	0	0		
733	0	0	38	1.00	1.00
751	60	54	167	2.65	1.18
764	154	9	257	1.99	1.03
792	70	0	404	1.84	1.02
804	0	0	122	1.00	1.06
821	0	0	241	9.64	4.81

TABLE J.49 (Continued)

DENTISTRY

THE 1983 LOOK AHEAD

(CONTINUED)

	ADDITIONAL NASF TO BE BUILT BY 1983 (000) (1)	ADDITIONAL NASF TO BE REMODELED BY 1983 (000) (2)	INVENTORY OF CONTROLLED NONCLINICAL SPACE (000) (3)	RATIO OF 1983 INVENTORY TO 1973 INVENTORY (4)	RATIO OF 1983 HEADCOUNT TO 1973 HEADCOUNT (5)
832	7	0	48	2.00	
853	235	96	331	3.45	0.81
854	0	0	64	1.00	2.39
862	0	0	46	1.00	1.00
911	0	0	74	1.00	1.08
913	0	0	67	1.00	1.00
941	80	0	201	1.76	1.84
942	0	0	70		0.95
944	31	34	111	1.76	0.93
SCHOOLS FOR WHICH VALUES ARE UNDEFINED				715 942	591 715 832

TABLE J.50: THE 1983 LOOK AHEAD

MEDICINE

	ADDITIONAL NASF TO BE BUILT BY 1983 (000) (1)	ADDITIONAL NASF TO BE REMODELED BY 1983 (000) (2)	INVENTORY OF CONTROLLED NONCLINI- CAL SPACE (000) (3)	RATIO OF 1983 INVENTORY TO 1973 INVENTORY (4)	RATIO OF 1983 HEADCOUNT TO 1973 HEADCOUNT (5)
TOTAL	9806	2082	38735	1.62	1.33
NUMBER OF SCHOOLS	95	95	95	94	94
MEAN	103	22	408	2.06	1.78
HIGH	802	220	2346	19.07	16.16
LOW	0	0	0	0.44	0.91
022	0	0	110	1.00	1.58
023	0	0	58	1.00	1.80
024	0	0	245	1.00	1.06
025	0	0	56	1.00	1.00
054	0	220	808	1.31	1.08
055	802	0	1006	4.30	1.58
074	67	0	504	1.13	0.93
091	100	0	333	1.43	2.27
094	389	110	1283	1.33	1.30
095	55	0	319	1.72	1.23
112	0	0	199	1.00	0.92
121	60	0	170	9.44	16.16
133	0	0	572	1.00	1.18
134	0	0	561	1.74	1.39
141	0	0	447	1.00	1.23
142	66	0	325	1.12	1.13
145	250	0	250	0.80	0.96
152	0	0	90	3.60	2.29
153	0	0	34	1.48	4.00
172	72	0	128	3.88	
184	0	0	322	1.00	1.11
203	106	127	670	1.56	1.24
212	0	0	0		1.07
215	0	0	432	2.59	13.11
222	0	0	81	1.00	1.00
224	20	11	31	0.50	1.49
241	100	0	175	1.05	1.25
252	126	113	584	1.68	1.79
254	0	30	365	1.00	1.27
275	90	0	1149	3.45	1.57
283	200	60	750	2.90	1.43
295	180	110	525	1.57	1.09
311	255	0	255	2.06	1.90
315	236	0	604	7.19	2.64
324	112	158	405	1.50	0.99
333	113	37	352	1.51	1.00
341	0	0	110	1.05	2.16
345	100	0	352	1.40	2.00
362	0	0	221	1.00	1.38
371	0	0	404	1.00	1.12
374	17	89	763	1.56	1.53
393	0	0	138	2.76	3.57
395	0	0	157	1.00	1.10
401	102	0	313	1.44	2.19

TABLE J.50 (Continued)

MEDICINE

THE 1983 LOOK AHEAD

(CONTINUED)

	ADDITIONAL NASF TO BE BUILT BY 1983 (000) (1)	ADDITIONAL NASF TO BE REMODELED BY 1983 (000) (2)	INVENTORY OF CONTROLLED NONCLINICAL SPACE (000) (3)	RATIO OF 1983 INVENTORY TO 1973 INVENTORY (4)	RATIO OF 1983 HEADCOUNT TO 1973 HEADCOUNT (5)
415	114	50	469	1.56	1.11
433	0	0	706	1.08	1.00
455	0	0	121	1.23	1.38
472	0	46	420	0.88	1.09
483	0	0	106	1.45	1.24
484	440	15	815	4.16	1.25
522	40	0	343	1.43	1.11
531	506	0	1311	1.71	1.23
543	0	0	153	1.00	0.91
562	236	46	397	2.47	1.17
563	102	10	140	3.68	1.03
574	0	51	780	1.32	1.16
575	0	0	54	1.00	1.38
583	0	0	174	1.60	1.31
602	0	0	108	1.00	1.20
613	410	0	795	4.70	1.86
624	0	0	175	1.32	1.43
635	40	100	600	1.60	1.46
651	51	0	119	1.75	1.99
652	200	50	390	2.00	1.36
653	175	0	381	1.82	2.87
664	58	0	374	1.32	1.55
671	73	60	729	1.16	1.01
672	763	0	763	19.07	2.73
683	58	22	192	1.43	1.31
711	50	0	99	2.02	1.16
714	160	0	358	1.78	1.22
731	265	0	587	1.82	1.00
743	0	0	592	1.44	1.00
744	365	73	2346	1.81	1.04
761	277	136	413	3.01	1.14
772	0	0	542	1.00	1.00
774	0	0	325	1.00	1.03
783	102	0	558	1.89	1.22
802	0	44	679	3.52	1.31
813	0	0	297	4.64	2.00
823	0	0	240	1.00	1.17
831	137	0	436	2.20	1.77
863	330	200	800	3.46	1.07
864	0	0	126	1.00	1.80
872	250	60	250	0.44	1.00
891	0	0	35	1.00	4.94
903	0	0	[illegible]	1.00	1.00
904	0	0	130	1.00	1.00
921	390	24	612	2.47	1.01
951	0	0	229	1.33	1.41
952	90	0	96	1.28	1.00
953	222	0	686	2.36	1.02
954	284	0	284	1.80	1.24
962	0	0	307	4.15	6.25
973	0	30	229	1.68	1.24
SCHOOLS FOR WHICH VALUES ARE UNDEFINED				212	172

TABLE J.51

THE 1983 LOOK AHEAD

OPTOMETRY

	ADDITIONAL NASF TO BE BUILT BY 1983 (000) (1)	ADDITIONAL NASF TO BE REMODELED BY 1983 (000) (2)	INVENTORY OF CONTROLLED NONCLINI-CAL SPACE (000) (3)	RATIO OF 1983 INVENTORY TO 1973 INVENTORY (4)	RATIO OF 1983 HEADCOUNT TO 1973 HEADCOUNT (5)
TOTAL	253	40	743	1.98	1.39
NUMBER OF SCHOOLS	10	10	10	10	10
MEAN	25	4	74	2.58	1.80
HIGH	96	25	106	5.40	5.13
LOW	0	0	52	1.00	1.06
069	0	0	54	1.00	1.06
072	0	0	71	1.00	1.12
101	30	0	81	5.40	2.18
211	6	0	67	1.26	1.57
235	96	0	96	4.17	1.92
281	30	14	52	2.26	1.27
334	0	25	55	1.72	1.17
634	0	0	106	1.80	1.27
892	91	0	91	3.25	1.35
933	0	1	70	3.89	5.13

TABLE J.52

THE 1983 LOOK AHEAD

OSTEOPATHY

	ADDITIONAL NASF TO BE BUILT BY 1983 (000) (1)	ADDITIONAL NASF TO BE REMODELED BY 1983 (000) (2)	INVENTORY OF CONTROLLED NONCLINICAL SPACE (000) (3)	RATIO OF 1983 INVENTORY TO 1973 INVENTORY (4)	RATIO OF 1983 HEADCOUNT TO 1973 HEADCOUNT (5)
TOTAL	260	69	1475	2.58	1.61
NUMBER OF SCHOOLS	5	5	5	5	5
MEAN	52	14	295	3.74	1.65
HIGH	100	30	620	12.65	2.25
LOW	0	0	41	1.00	1.01
033	0	0	41	1.00	2.00
062	0	9	333	1.73	1.37
293	100	0	620	12.65	1.64
303	80	30	276	1.69	1.01
402	80	30	205	1.64	2.25

TABLE J.53

THE 1983 LOOK AHEAD

PHARMACY

	ADDITIONAL NASF TO BE BUILT BY 1983 (000) (1)	ADDITIONAL NASF TO BE REMODELED BY 1983 (000) (2)	INVENTORY OF CONTROLLED NONCLINI- CAL SPACE (000) (3)	RATIO OF 1983 INVENTORY TO 1973 INVENTORY (4)	RATIO OF 1983 HEADCOUNT TO 1973 HEADCOUNT (5)
TOTAL	879	168	3208	1.40	1.27
NUMBER OF SCHOOLS	64	64	64	64	64
MEAN	14	3	50	1.70	1.29
HIGH	91	48	166	10.67	2.75
LOW	0	0	10	0.96	0.47
005	0	0	14	1.00	1.13
011	0	18	73	2.81	1.67
041	0	0	28	1.12	1.49
052	12	3	38	1.41	1.27
105	0	0	36	1.16	1.41
143	0	0	36	0.97	1.23
144	0	6	55	1.02	1.03
151	40	0	43	2.35	0.56
181	54	0	66	4.40	1.76
195	0	0	20	1.00	1.84
204	0	0	33	1.00	1.10
213	87	0	87	2.49	1.49
245	75	0	75	2.78	1.53
262	19	5	134	1.17	1.39
263	30	0	82	1.58	1.07
265	13	0	47	1.38	1.00
294	0	0	29	1.00	1.09
313	0	0	38	1.00	1.03
344	0	0	56	1.00	1.32
375	0	0	39	1.00	1.20
382	0	0	87	1.00	1.07
384	0	48	66	3.47	0.47
403	0	0	20	1.00	1.16
404	0	0	19	1.00	1.38
422	9	0	18	1.80	1.22
453	0	0	10	1.00	1.15
454	48	0	60	3.33	2.20
461	0	0	69	1.00	1.00
465	67	0	67	2.23	1.60
482	42	0	97	1.76	1.31
493	0	0	32	10.67	1.42
511	0	0	50	2.00	1.35
514	0	0	26	1.00	1.00
523	22	18	40	2.35	1.11
532	30	2	64	1.64	1.19
535	22	21	43	1.95	1.30
571	7	2	40	3.64	1.00
572	0	0	40	1.00	1.16
585	0	0	23	1.00	1.09
594	0	0	23	1.00	1.31
621	3	11	43	1.07	1.19
645	60	0	60	1.00	0.98
663	0	0	39	1.00	1.18
665	0	0	29	1.00	1.24

TABLE J.53 (Continued)

THE 1983 LOOK AHEAD

(CONTINUED)

PHARMACY

	ADDITIONAL NASF TO BE BUILT BY 1983 (000) (1)	ADDITIONAL NASF TO BE REMODELED BY 1983 (000) (2)	INVENTORY OF CONTROLLED NONCLINI-CAL SPACE (000) (3)	RATIO OF 1983 INVENTORY TO 1973 INVENTORY (4)	RATIO OF 1983 HEADCOUNT TO 1973 HEADCOUNT (5)
684	28	0	166	1.09	1.02
692	0	0	74	1.00	1.16
693	0	0	27	2.70	1.67
703	0	0	43	1.00	1.69
724	0	25	95	3.28	1.58
742	0	0	27	1.00	1.71
753	0	0	40	1.00	1.00
801	0	0	40	1.00	1.63
812	91	0	99	2.30	1.38
824	0	0	50	1.52	1.07
841	0	0	35	1.30	0.94
874	12	0	34	1.55	1.00
883	0	0	17	1.13	1.23
902	78	0	78	0.96	2.75
922	0	0	22	1.00	1.21
923	0	0	86	2.15	1.67
971	0	0	30	1.00	1.34
982	0	0	38	1.00	1.19
984	0	9	32	2.00	1.77
991	30	0	84	1.56	1.06

TABLE J.54

THE 1983 LOOK AHEAD

PODIATRY

	ADDITIONAL NASF TO BE BUILT BY 1983 (000) (1)	ADDITIONAL NASF TO BE REMODELED BY 1983 (000) (2)	INVENTORY OF CONTROLLED NONCLINICAL SPACE (000) (3)	RATIO OF 1983 INVENTORY TO 1973 INVENTORY (4)	RATIO OF 1983 HEADCOUNT TO 1973 HEADCOUNT (5)
TOTAL	205	155	516	3.69	1.46
NUMBER OF SCHOOLS	5	5	5	5	5
MEAN	41	31	103	4.61	1.52
HIGH	105	82	194	8.36	1.97
LOW	0	0	15	1.00	1.13
082	0	50	108	1.61	1.30
191	105	23	117	8.36	1.13
264	0	82	82	4.32	1.38
644	100	0	194	7.76	1.97
833	0	0	15	1.00	1.82

TABLE J.55

THE 1983 LOOK AHEAD

PUBLIC HEALTH

	ADDITIONAL NASF TO BE BUILT BY 1983 (000) (1)	ADDITIONAL NASF TO BE REMODELED BY 1983 (000) (2)	INVENTORY OF CONTROLLED NONCLINI-CAL SPACE (000) (3)	RATIO OF 1983 INVENTORY TO 1973 INVENTORY (4)	RATIO OF 1983 HEADCOUNT TO 1973 HEADCOUNT (5)
TOTAL	337	614	1159	1.15	1.45
NUMBER OF SCHOOLS	13	13	13	13	13
MEAN	26	47	89	1.50	1.82
HIGH	134	511	212	6.00	6.76
LOW	0	0	31	0.91	0.88
032	0	0	31	1.00	1.44
154	87	0	177	1.88	1.28
223	15	0	85	1.77	1.04
251	0	0	38	1.00	1.17
272	56	0	60	6.00	6.76
291	45	26	75	0.91	2.98
381	0	511	65	1.00	1.35
494	0	0	35	1.00	1.79
681	0	0	48	1.00	1.00
762	134	77	212	0.94	1.38
763	0	0	53	1.00	1.55
834	0	0	106	1.00	1.04
882	0	0	174	1.00	0.88

TABLE J.56

THE 1983 LOOK AHEAD

VETERINARY MEDICINE

	ADDITIONAL NASF TO BE BUILT BY 1983 (000) (1)	ADDITIONAL NASF TO BE REMODELED BY 1983 (000) (2)	INVENTORY OF CONTROLLED NONCLINI-CAL SPACE (000) (3)	RATIO OF 1983 INVENTORY TO 1973 INVENTORY (4)	RATIO OF 1983 HEADCOUNT TO 1973 HEADCOUNT (5)
TOTAL	1982	126	4855	1.96	1.47
NUMBER OF SCHOOLS	19	19	19	18	18
MEAN	104	7	256	3.38	1.94
HIGH	320	34	578	30.00	10.56
LOW	0	0	31	1.00	1.00
002	320	20	510	2.39	1.41
021	40	8	167	1.31	1.23
043	0	0	31	1.00	1.09
061	20	3	60	1.50	2.03
165	235	0	307	1.82	1.49
243	100	24	305	1.89	1.81
292	114	0	306	1.78	1.85
321	240	16	356	3.07	1.48
354	127	0	351	1.57	1.45
363	101	0	150	1.79	1.20
392	0	11	132	1.86	1.47
424	16	3	121	1.22	1.29
442	73	34	249	2.09	1.52
502	150	0	237	2.96	1.18
545	63	7	250	1.59	1.00
551	245	0	578	2.06	1.57
822	0	0	360	30.00	10.56
784	0	0	247	1.00	1.29
851	138	0	138		
SCHOOLS FOR WHICH VALUES ARE UNDEFINED				851	851

FOOTNOTES

THE 1983 LOOK AHEAD

1. This figure includes only those facilities reported in the context of "nonclinical instruction facilities".

2. Same note as for column 1.

3. The figure displayed includes "on-site patient care" and "other" facilities due to design limitations in the survey instrument.

4. The NASF figure used to represent the 1973 inventory includes, for purposes of comparability with the 1983 figures, "on-site patient care" and "other" facilities.

5. For respondents who left column E, page 10 of the survey form blank (1983 headcount), we have substituted the headcount reported in column C ("post-construction" headcount).